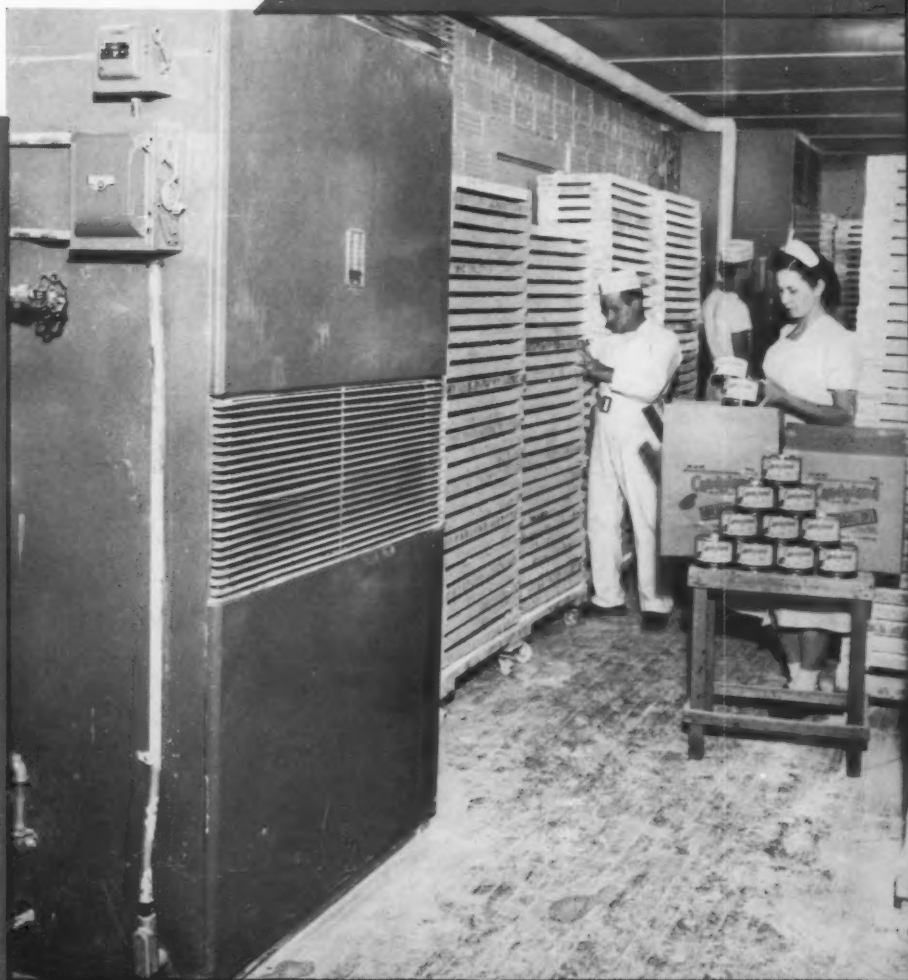


JULY 1951

Commercial Refrigeration

AND AIR CONDITIONING



MERCHANDISING, SELLING, INSTALLATION AND MAINTENANCE OF
COMMERCIAL REFRIGERATION AND AIR CONDITIONING EQUIPMENT

B & G SERIES 1522 *Hydro-Flo* CENTRIFUGAL PUMP



LEAK-PROOF
SEAL

The B & G Leak-proof Seal alone establishes this pump as the "buy" for your cooling tower or evaporative condenser installations. The Seal is self-lubricating and eliminates the usual leakage through the packing gland—assures long, trouble-free service.

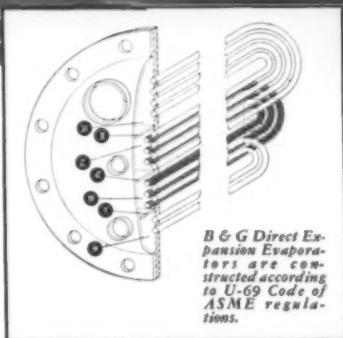
It's a *quiet* pump. Long bronze sleeve bearings hold the shaft in alignment and the spring-type flexible coupling helps keep noise at a minimum. The impeller is *hydraulically balanced* . . . highly efficient.

Bearing bracket sub-assembly, including shaft and sleeve bearings, is interchangeable in all B & G 1522 Pumps. Easily serviced—the pump separates into three parts.

The B & G 1522 is available in all-iron, bronze-fitted, all-bronze or stainless steel units.

A GREAT COMBINATION

FOR MORE EFFICIENT REFRIGERATION INSTALLATIONS



B & G *Hydro-Flo* EVAPORATORS

Unique design prevents oil-trapping in head passes

A certain amount of compressor crankcase oil is picked up by the refrigerant during compression. If oil is continuously trapped in the evaporator, the oil in the compressor crankcase becomes depleted, which may cause bearing trouble. If the condition is not corrected, the system eventually becomes useless, for excessive oil in the evaporator reduces heat transfer.

The diagram at left shows how this trouble is prevented in the B & G Evaporator. Note that the lower tube in pass "B" leading to pass "C," and the lower tube in pass "C" leading to pass "D" are located very close to the baffle plate, permitting any oil entering passes to travel freely with the Freon vapor back to compressor. *There is no step-up or sump to trap oil!*

Send for engineering data on B & G Evaporators, Condensers and Centrifugal Pumps.



BELL & GOSSETT

C O M P A N Y

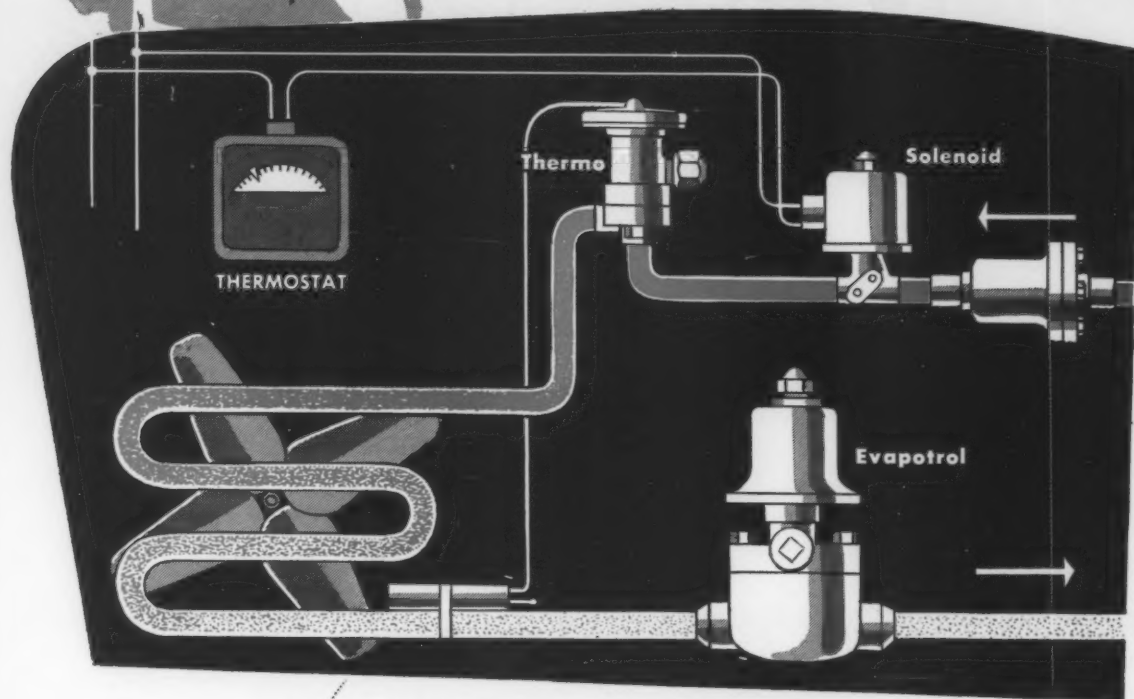
Dept. CC-45, Morton Grove, Illinois

Canadian Licensees: S. A. Armstrong, Ltd., 1400 O'Connor Drive, Toronto, Canada *Reg. U. S. Pat. Off.

Circle No. 1 on Reader Service Card for more information

TRIPLE PLAY TEAMWORK!

with this smooth-working
ALCO VALVE combination



Control trouble is "out" every time these ALCO stars go into action:

S-120 Solenoid—for positive liquid stop

- all internal parts...Stainless Steel
- tight seating, packless, quiet operation
- specially treated, powerful, waterproof coils for longer life

TCL Thermo—for accurate liquid control

- easy external adjustment
- simple to take apart and service without removing from the line
- Atomic Hydrogen welded power assembly for longer service life

435 Evapotrol—maintains evaporator pressure, prevents freezing, icing and de-humidification

- adjustable pressure range from 0-40 p. s. i.
- corrosion resistant
- "come apart" construction for easy cleaning and inspection

For further details see your ALCO wholesaler and write for catalog 19



Designers and Manufacturers
of Thermostatic Expansion
Valves; Evaporator Pressure
Regulators; Solenoid Valves;
Float Valves; Float Switches.

ALCO VALVE CO.

843 KINGSLAND AVE. • ST. LOUIS 5, MO.

4766

Circle No. 2 on Reader Service Card for more information

Here it is...



The ultimate in hot gas defrosting

Therm-o-cycle is a simple refrigeration system using room air passed over a re-evaporator coil to furnish the heat required for defrosting. Dependable, automatic and trouble-free Therm-o-cycle has been proven in thousands of fixture installations the world over. Now, this system is available for larger commercial installations.



Write for Bulletin No. 525 which gives complete specifications and instructions.

Buy the Best — and the Best is Bush

Bush Manufacturing Co.

WEST HARTFORD 10, CONNECTICUT

Circle No. 3 on Reader Service Card for more information

JULY, 1951 • COMMERCIAL REFRIGERATION

JULY, 1951

VOLUME 8, No. 7

Commercial Refrigeration

AND AIR CONDITIONING

Established 1944 as
THE REFRIGERATION INDUSTRY

THIS MAGAZINE has no
official affiliation with ANY
group, society or association.

IRVING B. HEXTER
President

LESTER F. AURBACH
Executive Vice President

EDWIN M. JOSEPH
Vice President

JEROME R. PESKIN
Vice President

THEODORE T. QUINN
Managing Editor

JAMES R. McCALLUM JR.
Editor

WARREN W. FARR
H. S. McCLOUD
Editorial Advisors

EDWIN M. JOSEPH
Circulation Director



Address communications to
COMMERCIAL REFRIGERATION
AND AIR CONDITIONING

1240 Ontario Street
Cleveland 12, Ohio
Phone: Superior 1-9522
Teletypewriter: CV-233

SALES OFFICES

NEW YORK 17
LEE HAAS
60 E. 42 Street
Room 505
Harvey Hill 7-8420

CHICAGO 11
FRED F. MIGNIN JR.
120 N. Michigan Ave.
Room 734
Superior 7-7823

LOS ANGELES 17
FRED W. FRISENFELDT
1250 Wilshire Boulevard
Room 602
Tushar 6703

THE COVER . . . Air conditioning is a "must" in the modern candy plant. Because most candy materials are sensitive to both temperature and humidity, control of atmospheric conditions helps make possible increased production, lower cost, and uniformly higher quality. For a roundup of other essential industrial applications to which packaged air conditioners can be applied, turn to page 42.

IN THIS ISSUE

FEATURES

FOOD FOR FACTORIES.....	32
WINDOW COOLERS GO COMMERCIAL.....	34
BOOSTS BUSINESS 30%.....	36
LOW TEMPERATURE IN INDUSTRY.....	40
3. Maintenance problems	
PACKAGES CAN DO THE JOB.....	42
SPEAKING OF TRADE-INS.....	44
ACRMA-REMA SUMMARY OF COMPRESSOR SHIPMENTS....	64
ANSUL'S FREE TECHNICAL RESEARCH SERVICE AIDS ENTIRE INDUSTRY.....	66

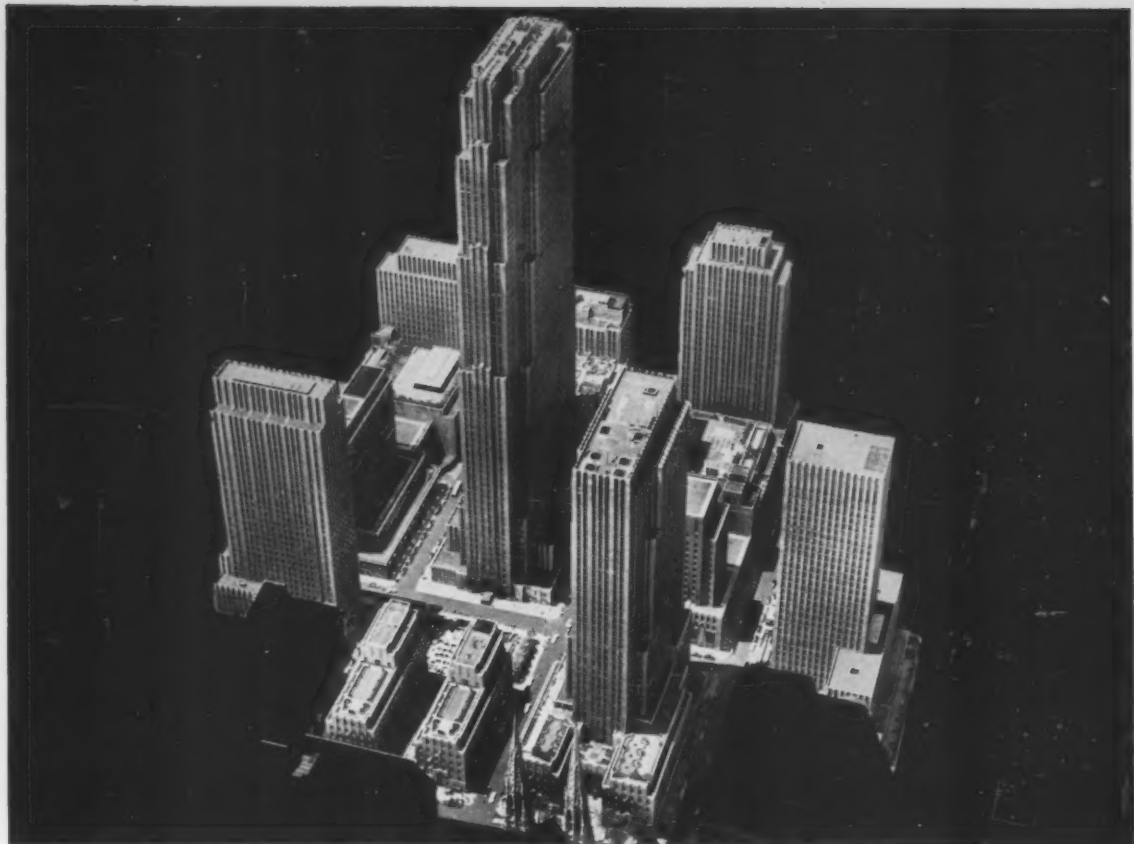
DEPARTMENTS

About People.....	41
BTU's	31
Contractor News.....	70
Here's How.....	85
New Products.....	56
Opportunities	87
Practical Refrigeration Applications Manual.....	79
Refrigeration Industry News.....	47
Useful Literature.....	54
Index to Advertisers.....	88
Product Index.....	77

Published monthly by REFRIGERATION PUBLICATIONS, INC., an affiliate of INDUSTRIAL PUBLISHING CO., publishers of APPLIED HYDRAULICS, DIE CASTINGS, FLOW, INDUSTRY & WELDING and OCCUPATIONAL HAZARDS. Member, Controlled Circulation Audit, Inc. Not responsible for unsolicited editorial material.

Subscription rates: United States and possessions—\$3.00 per year, \$5.00 for 2 years; Canada—\$4.00 per year, \$6.00 for 2 years; Foreign—\$5.00 per year. Single copy price, 30 cents. All subscriptions subject to individual acceptance by the publisher.

Acceptance under Section 34.64, PL&R, authorized at Milwaukee, Wisconsin.



World-Famed "City Within a City"

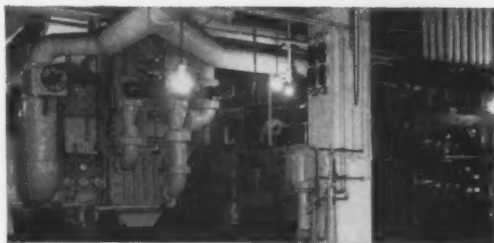
...Air conditioned with "Freon"-operated equipment

Rockefeller Center in the heart of New York's Manhattan is the largest privately owned business and entertainment center in the world. Begun in 1931, it now consists of 15 huge buildings, occupying more than 12½ acres. The RCA building, dominating structure in "Radio City," towers 70 floors . . . 850 feet above street level.

Throughout this fabulous Center more than 2,000,000 sq. ft. of floor area is completely air conditioned with equipment using "Freon" safe refrigerants—and these machines dependably produce over 8,000 tons of refrigeration!

Because "Freon" refrigerants are recognized by architects and engineers everywhere as the most suitable for serving the public, it was a logical decision to install air conditioning equipment that is "Freon"-operated. These refrigerants are nonflammable, nonexplosive, practically nontoxic . . . harmless to foods, furs, fabrics or finishes.

"Freon" refrigerants meet all safety requirements of city codes everywhere. In addition, the uniformity of these refrigerants insures the efficient and economical performance of air conditioning systems over long periods of time . . . good reason why most equipment selected for today's modern structures is designed to use these superior refrigerants. E. I. du Pont de Nemours & Co. (Inc.), "Kinetic" Chemicals Division, Wilmington 98, Delaware.



A small part of the equipment installations necessary to air condition buildings in Rockefeller Center.



BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY



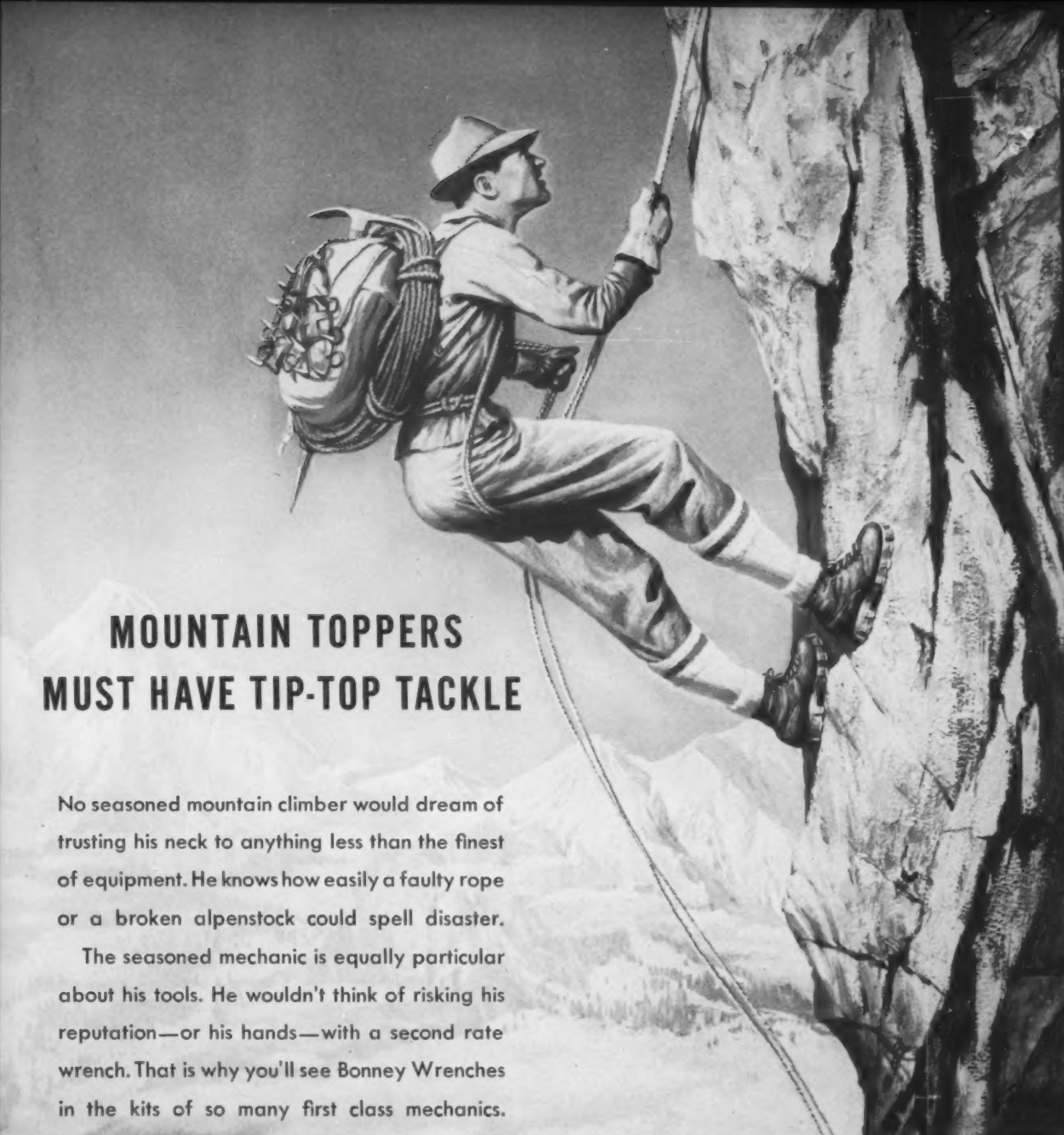
FREON

SAFE REFRIGERANTS

"Freon" is Du Pont's registered trade-mark for its fluorinated hydrocarbon refrigerants.

Circle No. 4 on Reader Service Card for more information

JULY, 1951 • COMMERCIAL REFRIGERATION



MOUNTAIN TOPPERS MUST HAVE TIP-TOP TACKLE

No seasoned mountain climber would dream of trusting his neck to anything less than the finest of equipment. He knows how easily a faulty rope or a broken alpenstock could spell disaster.

The seasoned mechanic is equally particular about his tools. He wouldn't think of risking his reputation—or his hands—with a second rate wrench. That is why you'll see Bonney Wrenches in the kits of so many first class mechanics.

This is one of a series of spirited sporting scenes (in full color, without advertising) available on request. Write for your free set today.


"CHEAP TOOLS ARE FOR CHUMPS". So says the good mechanic. And the best recommendation for Bonney Wrenches is the kind of men who use them. As thousands of good mechanics can testify, for lightness, strength, balance and precision, you can't beat a Bonney.



BONNEY FORGE & TOOL WORKS, ALLENTOWN, PENNSYLVANIA

*Here's the way
to plug costly
water waste!*



WITH 
**COOLING
TOWERS**



20-Year Guarantee!

ON THE WETTED DECK SURFACE

BATTLESHIP STRENGTH!

HOUSING—

Of heavy 10 gauge ($\frac{1}{8}$ "+) sheet steel, with three coats of Bitumastic lining, and four coats of outside special weatherproof paint. Electrically welded cabinet.

FAN & DRIVE—

Quiet hi-pressure 8-bladed Stainless Steel fan, stainless steel shaft, chrome-dipped rust-proofed pulleys, ball-bearing grease-sealed fan bearings.

Capacity range: 5, 7½, 10, 15, 20 ton.

CARRIED IN STOCK BY LEADING
WHOLESALEERS EVERYWHERE

Send for Literature and Prices

Here's the economy way to water savings—20 years of foolproof performance in an all-around, efficient, economical and lastworthy cooling tower. The processed wetted deck surface in these quality Halstead & Mitchell cooling towers is chemically treated with special Koppers wood—guaranteed 20 years against rotting, and proofed against fungi growth. Gravity-type distributing pan eliminates extra pumping head required on spray-type towers, and cuts down windage losses due to atomizing of water. And, it's easily cleaned—accessible through inlet air side of tower.

Capacity range: 5, 7½, 10, 15, 20 ton.

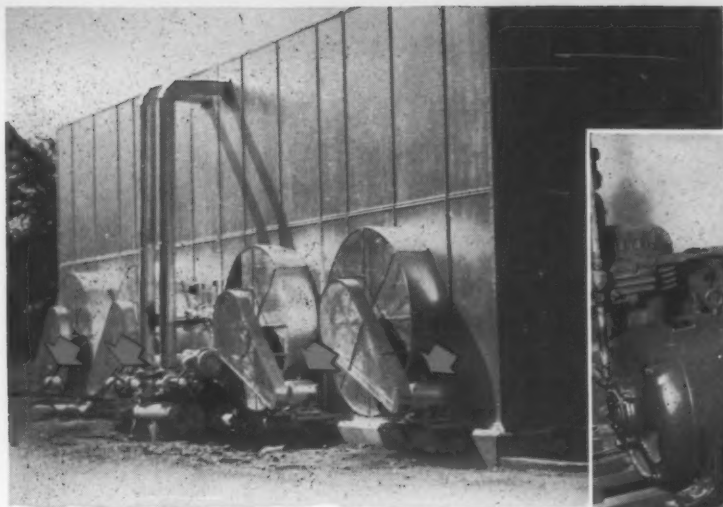


Halstead & Mitchell

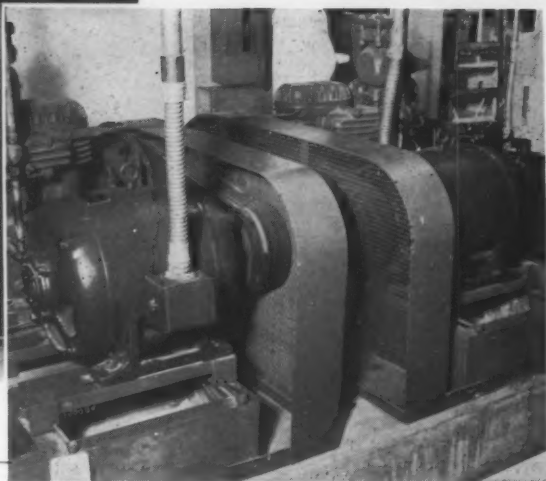
OFFICES: BESSEMER BUILDING • PITTSBURGH 22, PA.

Circle No. 6 on Reader Service Card for more information

JULY, 1951 • COMMERCIAL REFRIGERATION



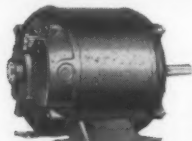
Four Century 5 horsepower splash proof motors driving fans.



Two Century 30 horsepower motors driving refrigeration compressors.

Century

**TYPE SC-
SQUIRREL CAGE MOTORS**



1/8 to 3/4 horsepower



1 to 1 1/2 horsepower



2 to 15 horsepower



20 to 125 horsepower



150 to 400 horsepower

Equipment Producers

Select *Century* Motors

To Give You Long-Life Performance With Least Down-Time

The correct selection of the right combination of motor type, speed, power, torque, frame and mounting keeps Century motors on the job.

Team work between your motorized equipment producers and Century motor engineers means that you always get the right motor—selected from Century's wide range of types and kinds, in sizes from 1/8 to 400 horsepower for single or polyphase alternating current and direct current. You can be confident that you get top performance from the fine equipment these motors drive.

Skillful application makes sure that Century motors meet the exacting requirements of the machines they drive. That's your assurance of dependability.

CENTURY ELECTRIC CO. 1806 Pine St., St. Louis 3, Mo.
Offices and Stock Points in Principal Cities

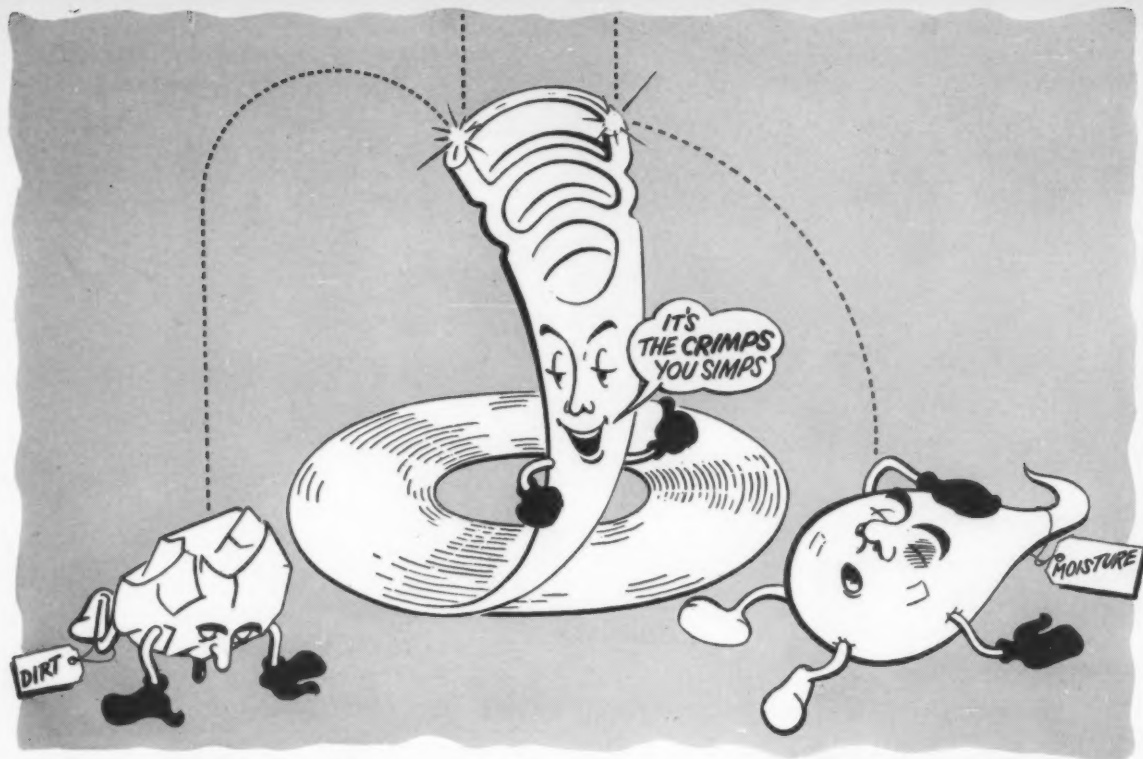


Specify

Century Electric Company is celebrating its 50th year in the electrical industry.

CE-650R

for all your electric power requirements



These Pests haven't a chance of getting into..

REVERE

DRYSEAL

refrigeration tube

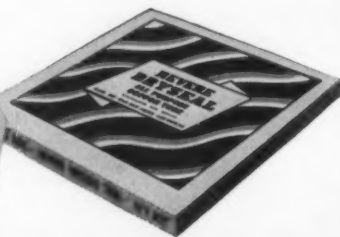
●Dryseal gives dirt and moisture the bounce they get at the factory. A special, precise, mechanical double-crimp seal is made at each end of the tube when it is manufactured. This means Dryseal is delivered to you bone-dry and free from dirt. The seal is made in such a way that the diameter of the tube does not change, which permits Dryseal to be passed through any opening large enough for the tube itself.

While Dryseal may be stubborn about keeping out

dirt and moisture it's a soft touch when it comes to bending. The soft temper of the copper used in Dryseal allows you to make the most intricate bends by hand. And its ductility and soft temper make it extremely easy to flare for compression fittings without danger of splitting. Economical tube sizes range from $\frac{1}{4}$ " to $\frac{3}{4}$ " O.D.

And, for your greater convenience we have just recently brought out Dryseal in a nifty-50 one-coil carton. This carton, which has been attractively designed for easy identification in stock, contains one 50-foot coil of Dryseal . . . is easier to handle, light weight, economical.

**NOW in the
NIFTY-50
one-coil
carton!**



REVERE 150TH YEAR OF SERVICE TO AMERICA
COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801
230 Park Avenue, New York 17, N. Y.

Mills: Baltimore, Md.; Chicago and Clinton, Ill.; Detroit, Mich.; Los Angeles and Riverside, Calif.; New Bedford, Mass.; Rome, N. Y.—
Sales Offices in Principal Cities, Distributors Everywhere.

SEE "MEET THE PRESS" ON NBC TELEVISION EVERY SUNDAY

Circle No. 8 on Reader Service Card for more information

JULY, 1951 • COMMERCIAL REFRIGERATION



You save time and money in all your installations when you specify Superior valves and fittings because they are precision built to give you longer lasting service with a minimum of downtime for repairs. And besides protecting you against future costly repairs, they provide greater insurance against the possible time when metals may be even more scarce and replacement parts even more difficult to obtain. You see, Superior never builds anything but the best. Each valve and fitting is engineered for double durability—is built to outlast the line it serves. Start saving today with Superior products!

Remember to ask your wholesaler for *Superior*

Superior valve and fittings co.

Pittsburgh 26, Pa.

Circle No. 9 on Reader Service Card for more information



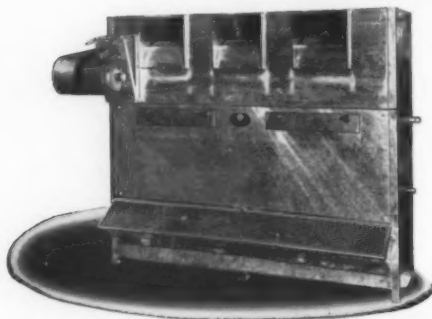
specify ACME

for increased efficiency, economy and long life

ACME Products have been manufactured continuously for more than 30 years. ACME Products are universally accepted and noted for their dependability and fine workmanship. ACME published ratings are accurate and conservative. ACME'S 30 years of engineering experience gives you economy, long life and increased efficiency on which you can build a greater volume of business and increased profits.

EVAPORATIVE CONDENSERS AND HEAVY DUTY COOLING TOWERS

1. Heavier, extra strong construction for durability. 2. Complete moisture elimination for dry fan operation. 3. Save more than 90% of the water required. 4. Built in 3 sections for easy shipment and installation. 5. Flexible fan arrangement. 6. Hot-dip galvanized *after* fabrication. 7. Internally mounted receivers for added storage capacity. 8. Provision for Micromet threshold water treatment. ALL the above features, with the exception of "internally mounted receivers" and "Micromet threshold water treatment" are also available in ACME Heavy Duty Cooling Towers.



BLO-COLD* INDUSTRIAL UNIT COOLERS

1. Units available for Dry Coil or Brine Spray Operation. 2. Available for flooded, direct expansion or brine operation. 3. Coils may be either prime surface or finned; tubes of copper or steel pipes. Fins aluminum or steel. Coils, steel pipes and fins may be hot-dip galvanized. 4. Vertical or horizontal discharge, easy accessibility to coils. 5. Economical to operate. 6. Air inlet front or back.

ACME ALSO MANUFACTURES: Ammonia Condensers • Freon Condensers • Shell and Coil and Shell and Tube Condensers • Dry-Ex* Water Coolers • Hi-Peak* Water Coolers • Fin Coils • Pipe Coils • Oil Separators • Liquid Receivers • Heat Exchangers • Flow-Cold* Liquid Chillers • Convectors

* Trade Mark

MODEL J COOLING TOWERS

1. Versatile — Model for all purposes. 2. With or without pump. 3. An ideal Jobber item, stock model can be used to meet all requirements.



ACME INDUSTRIES, INCORPORATED
JACKSON, MICHIGAN

CONTINUOUSLY SERVING THE REFRIGERATION INDUSTRY SINCE 1919

Circle No. 10 on Reader Service Card for more information



CONDENSING UNITS AND RENEWAL PARTS



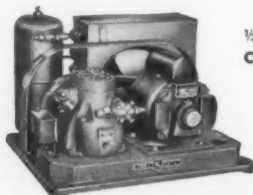
Here's how G. E.'s thin valve plate cuts operating costs

A crucial spot where compressor capacity can be lost is in the gas passages of the valve plate. In a thick valve plate a large amount of refrigerant gas will remain after each compression stroke. On the next stroke, the piston must compress all this gas again, wasting energy and increasing power costs.

General Electric's valve plate—machined with exacting precision and constructed of high-grade spring steel—is so thin that there is very little

space in which gas can remain, yet the passages are wide enough to keep gas friction low. Compressor efficiency stays high and operating cost is cut.

There is added efficiency in the quick, sure action of the valves which peel open like an orange along the curved contour of the valve retainer. The peeling action produced by this retainer promotes long valve life by eliminating valve slap.



½ hp
CWC-31B

G-E Open Type Condensing Units,
¼-10 hp. G-E Sealed Units, ¼-½ hp.
G-E Compressor Bodies, ¼-10 hp.

You can put your confidence in—

GENERAL  ELECTRIC

FREE! DATA ON G-E SEALED AND OPEN UNITS

General Electric Company
Air Conditioning Dept., Sec. CR-12, Bloomfield, N. J.

Please send me literature on:

G-E Hermetics ☐ G-E Open Units ☐ G-E Renewal Parts ☐
I am a Service Engineer ☐ Dealer ☐ Manufacturer ☐ Contractor ☐

NAME.....

COMPANY.....

ADDRESS.....

CITY.....ZONE.....STATE.....

Circle No. 11 on Reader Service Card for more information

Servel

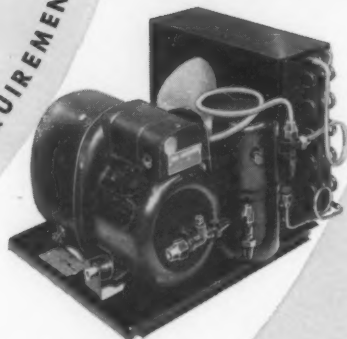
SUPERMETIC

ELECTRIC CONDENSING UNITS

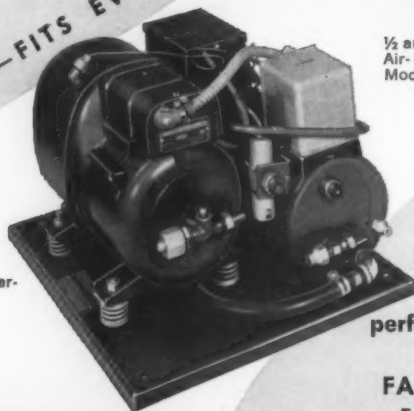
- ★ Medium and low temperature sizes
- ★ Sealed-in lubrication
- ★ Simple to install, easy to check
- ★ Compact space-saving design
- ★ Air and water-cooled types



1/4 and 1/2 HP
Air-Cooled Models



1/2 and 3/4 HP
Air- or Water-Cooled
Models



1 HP Air- or Water-
Cooled Models



1 1/2 and 2 HP Air- or
Water-Cooled Models
3 HP Water-Cooled

SERVEL—THE PROFIT LINE—FITS EVERY FIXTURE REQUIREMENT

Servel Supermetic's high record of trouble-free performance makes possible an amazingly liberal **FACTORY WARRANTY . . .** 5 years on current models up to 1 HP . . . One year on larger sizes to 3 HP.

ALSO AVAILABLE . . . Compact Hermetic Power Units, 1/2 to 5 HP, for manufacturers of high temperature equipment, and 1/8, 1/4, 1/2, 1/2 HP capillary tube condensing units for small fixture applications.

Servel

SUPERMETIC

SERVEL, INC. ELECTRIC REFRIGERATION DIV.
EVANSVILLE 20, INDIANA



ANSUL REFRIGERATION OIL

THE NEW . . . IMPROVED . . . ANSUL REFRIGERATION OIL . . . IS A RESULT OF THE PERSISTENT SEARCH BY ANSUL CHEMISTS AND REFRIGERATION TECHNICIANS FOR THE FINEST QUALITY REFRIGERATION OIL . . . AT ANY PRICE!

Since Ansul Refrigeration Oil was introduced in 1949 . . . its acceptance by refrigeration men has continued to expand. In only two short years Ansul is one of the leading refrigeration oils sold exclusively through Refrigeration Wholesalers.

The New . . . Improved Ansul Refrigeration Oil is now available at leading refrigeration wholesalers everywhere. It meets, or surpasses, every specification established by Ansul Research for a high quality refrigeration oil.

BUY IT AT THE NEW LOW PRICE. Use it for more dependable, trouble-free lubrication.

NOTE THESE IMPORTANT ANSUL FEATURES —

- a. *Lower floc point.
 - b. *50% lower wax content.
 - c. Moisture — ANSUL CONTROLLED minimum.
 - d. *Lower pour point.
 - e. Rigidly checked for high stability.
 - f. *Lowest affinity for moisture.
 - g. New low price.
 - h. Available in quart, 1-gallon and 2-gallon cans; also in 5-gallon and 55-gallon steel containers.
- *Improved features.*



ANSUL CHEMICAL COMPANY

REFRIGERATION DIVISION, MARINETTE, WISCONSIN

ANSUL SULFUR DIOXIDE, ANSUL METHYL CHLORIDE, ANSUL OIL, KINETIC "FREON" REFRIGERANTS
ALSO MANUFACTURERS OF INDUSTRIAL CHEMICALS AND DRY CHEMICAL FIRE EXTINGUISHERS

Circle No. 13 on Reader Service Card for more information
and **AIR CONDITIONING • JULY, 1951**



Self-service meat department in Market Basket chain's newest unit in Whittier, Calif. Thermopane sliding partition separates air-conditioned cutting room from bank of self-service cases.



HERE'S A WAY TO MAKE A DOUBLE SALE

This self-service meat department is the last word in merchandising. And when you sell a job like this you make *two* sales—an air-conditioning installation *plus* some self-service refrigerated cases.

All cutting and packaging is done in the special 55° air-conditioned cutting room, fully visible through sliding partitions glazed with *Thermopane** insulating glass. Its famous *Bondermetic Seal** keeps the blanket of air between the panes as dry as the Sahara. With this construction, condensation, frost or fog are no problems. Better visibility means a better seeing, better *selling* view—and surveys prove that meat customers will buy more if they can see more. *They want to see that freshly cut meat is packaged.*

And if the self-service cases you sell are *Thermopane* equipped, they'll complete the better visibility picture. *Thermopane* requires narrower posts and edge trim; minimum obstruction to vision.

• • •

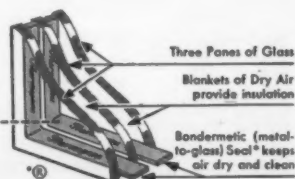
Be sure you capitalize on the sales possibilities of this new type of installation. It is being featured in Libbey-Owens-Ford advertising to your customers, appearing in: *Meat Merchandising*, *Super Market Merchandising*, *Quick Frozen Foods* for July; *Food Topics*, July 23, and *Chain Store Age*, *Progressive Grocer*, *National Grocers Bulletin*, August. Libbey-Owens-Ford Glass Company, 2971 Nicholas Building, Toledo 3, Ohio.



Thermopane

LOOK FOR THE NAME ON THE SEAL BETWEEN THE PANES

FOR BETTER VISION SPECIFY THERMOPANE MADE WITH POLISHED PLATE GLASS





a lot of eyebrows raised when this one came along

Yes . . . when the Motorpump hit the market it stirred up a lot of surprise and enthusiasm among people in air conditioning. They saw that Ingersoll-Rand engineers had developed a different, *smaller* pump that was higher in efficiency and reliability when compared *size for size* with *any* type pump on air conditioning systems today!

Immediately, such a pump gave people like yourself, in air conditioning, many advantages. In the first place, the smaller pump costs less. There are savings

in weight, space and power consumption. Most important, installations would be far less expensive.

The proof is yours when you put I-R Motorpumps to work. You can get prompt delivery from any one of many I-R branch warehouses. Call your nearest I-R distributor or representative for any facts or figures, or write direct for our descriptive booklet "A Picture of Improved Pumps for Air Conditioning". Ingersoll-Rand Company, 11 Broadway, New York 4, New York.



← Ingersoll-Rand

90 years of BIG PUMP know-how packed into small pumps for air conditioning applications!

← MOTORPUMP

Circle No. 15 on Reader Service Card for more information
and AIR CONDITIONING • JULY, 1951

*any location
any capacity*

Just name the place . . . and

AQUATOWER or VAIRFLO

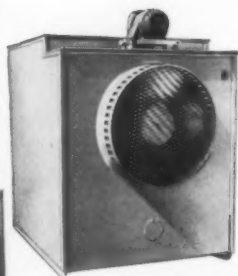
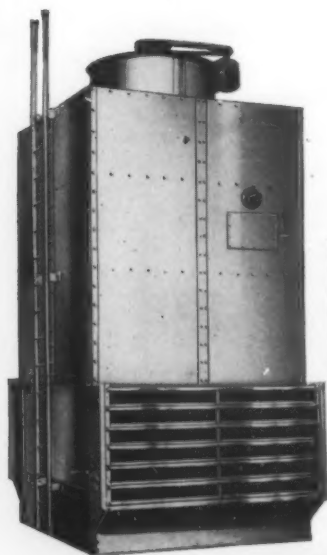
will do the water cooling job!

Indoors or out . . . on the ground or on the roof . . . on the top floor or in the basement—there's a Marley cooling tower designed to fit any location and any cooling requirement.

If your job is in the 3-ton to 60-ton range, you need an adaptable Aquatower—the compact, trouble-free cooling tower for indoor or outdoor use. Aquatowers are made in nine sizes and two styles to do each specific job economically. They are shipped completely assembled or “knocked-down” for easy assembly on the job.

In larger capacity installations the answer is a versatile Marley Vairflo . . . a broad range cooling tower with all the quality “extras” ordinarily found only in heavy-duty, high priced towers. The Vairflo, in steel or wood, harmonizes with architectural design. All material in Vairflos is completely prefabricated for simple job erection.

Whatever your need, select a Marley tower backed by the Marley guarantee and the “know-how” gained in more than 25 years of leadership in the water cooling industry. For more information, write for Marley bulletins AQ-51 and V-51, or call the Marley representative in your city.



also producers of
DOUBLE-FLOW TOWERS
CONVENTIONAL TOWERS
DRICOOLERS
NATURAL DRAFT TOWERS
SPRAY NOZZLES

The Marley Company, Inc.

KANSAS CITY 15, KANSAS

Circle No. 16 on Reader Service Card for more information

JULY, 1951 • COMMERCIAL REFRIGERATION





Everybody's talking about

CHASE EXTRA SOFT COPPER REFRIGERATOR SERVICE TUBE IN THE NEW CARTON

Have you seen Chase Extra Soft Copper Refrigerator Service Tube in the new convenient carton? The new carton has made a simple matter out of storing, identifying, and shipping.

Chase Extra Soft Copper Refrigerator Service Tube is easily worked because it has a uniform temper. It comes to you clean and moisture-free. And the crimped end-seal keeps it that way. Tube comes in $\frac{1}{8}$ " through $\frac{3}{4}$ " diameters in 50' coils.

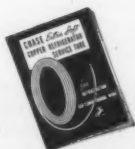
For extra tight, permanent joints, use Chase Wrought Copper Solder-Joint Fittings. They expand and contract with the tube and have no inside ridges to retard refrigerant flow.

Chase BRASS & COPPER

WATERBURY 20, CONNECTICUT • SUBSIDIARY OF KENNECOTT COPPER CORPORATION

• The Nation's Headquarters for Brass & Copper

Albany†	Cleveland	Kansas City, Mo.	New York	San Francisco
Atlanta	Dallas	Los Angeles	Philadelphia	Seattle
Baltimore	Denver†	Minneapolis	Pittsburgh	Waterbury
Boston	Detroit	Mississippi	Providence	(† sales office only)
Chicago	Houston†	Newark	Rochester†	
Cincinnati	Indianapolis	New Orleans	St. Louis	



FREE BOOK gives sizes, weights, packaging and installation details on Chase Copper Refrigerator Tube.

Chase Brass & Copper Co., Dept. CR751
Waterbury 20, Conn.

Please send me your Free Book on Chase Copper Refrigerator Tube.

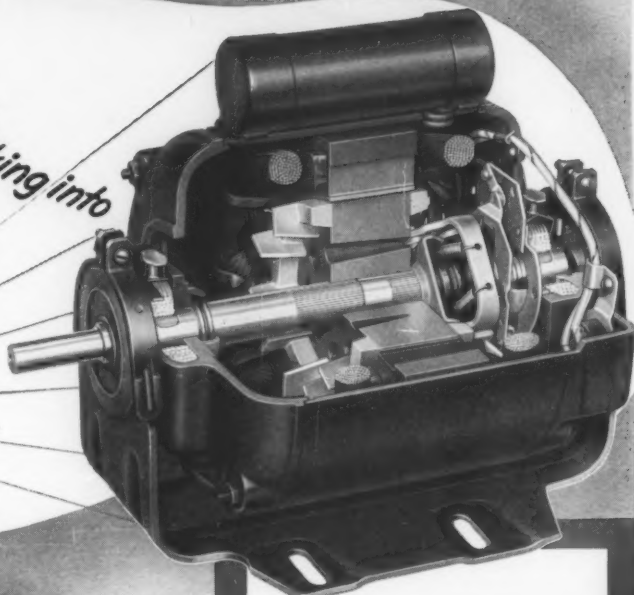
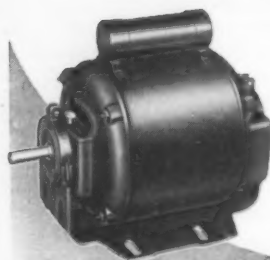
Name _____
Position _____
Firm _____
Address _____
City _____ State _____

Circle No. 17 on Reader Service Card for more information

Wagner
ELECTRIC MOTORS
... the choice of leaders
in industry

it pays to be particular
about your choice of motors

worth looking into



Wagner CAPACITOR-START MOTORS

are exceptionally well-adapted to applications with fairly heavy starting loads

The choice of the motor that powers your product is all important. Uniform performance, troublefree long-life operation, a well-known name, and the ability of the manufacturer to provide fast service and repair parts on a nationwide scale, are all factors that add up to satisfied customers for you.

Wagner capacitor-start motors are worth looking into for general purpose applications requiring high starting torque. They are available with sleeve or ball bearings, rigid or resilient bases or a machined end plate for flange mounting. Bulletin MU-185 gives full details—write for your copy.

WAGNER CAPACITOR-START MOTORS...built in ratings from $\frac{1}{8}$ through 3 hp.

when you choose Wagner Motors you save time, money, worry because:

1. Improved engineering features assure long life and efficient operation.
2. Wagner Motors are available in a wide range of types and sizes for every application.
3. Wagner Motors are backed by a liberal warranty.
4. They are available from Wagner Branches in all principal cities.
5. More than 650 Wagner Authorized Service Stations and Parts Distributors plus 25 Wagner-owned Service Branches provide on-the-spot service, replacement motors, or genuine repair parts.

Wagner
Electric Corporation

1891 **WE** 1951

WAGNER ELECTRIC CORPORATION
6442 Plymouth Ave., St. Louis 14, Mo., U.S.A.

ELECTRIC MOTORS • TRANSFORMERS • INDUSTRIAL BRAKES
AUTOMOTIVE BRAKE SYSTEMS — AIR AND HYDRAULIC

BRANCHES IN 31 PRINCIPAL CITIES

NOW! sell more Room Air Conditioners at **HIGHER PROFIT** with **LESS COMPETITION**



ONLY REMINGTON PLUS-3 AIR CONDITIONING GIVES
DEALERS THESE IMPORTANT SALES ADVANTAGES!

★ **AMERICA'S ONLY COMPLETE LINE! A Remington room air conditioner for EVERY type of prospect**

You're passing up easy-to-get profit if you aren't carrying Remington PLUS-3 Room Air Conditioners. *No other line is so complete.* No other line gives you such a full range of window and console models . . . air cooled and water cooled; such a full range of voltages; horse powers including $\frac{1}{2}$, $\frac{3}{4}$, 1 and $1\frac{1}{2}$; such a full range of cabinets. All models may be installed through windows or built into walls . . . installed singly or in multiple units so you can sell most every type prospect from homes and offices to industrial plants.

★ **Fast turnover! More to offer! Competitively priced!**

Remington PLUS-3 Room Air Conditioners provide *more* than just cooling. Your customers get clean, filtered air, circulated without drafts, and at the proper humidity. Provision can be made for moderate heating unit . . . excellent for Spring and Fall days. Now you can sell year-round air conditioning.

Remember, too, with filtered air, dirt and pollen are removed . . . a boon to respiratory sufferers. That is why you'll find Remington PLUS-3 Room Air Conditioners in *every country in the world* . . . operating under every possible condition.

Yes, Remington PLUS-3 Air Conditioners are fast turnover items . . . offer you many extra sales advantages . . . yet, are competitively priced.

★ **Selling made easy and simple!**

To help you sell, Remington not only backs you up with National Advertising, newspaper mats, colorful folders, display and advertising material . . . *BUT* Remington offers a *Special Comfort Selector*, which makes selling easy. With this selector and a few basic facts any salesman can diagnose the air conditioning problem, and dial the size unit required. It's that easy! Write for a Remington Comfort Selector, and **ASK ABOUT THE REMINGTON DEALER PLAN . . . TODAY!**



Remington
PLUS-3 Air Conditioning

HEALTH AND COMFORT FROM TEMPERATURE CONTROL
PLUS 1. FILTERING 2. MOISTURE CONTROL 3. CIRCULATION

Circle No. 19 on Reader Service Card for more information

and AIR CONDITIONING • JULY, 1951

**JUST LOOK AT
ALL THESE PROSPECTS!**



HOMES
DOCTORS
DENTISTS



OPTICIANS
LAWYERS



OFFICES
SMALL STORES



SALESROOMS
WAITING ROOMS
CONFERENCE ROOMS



MOTELS



HOTELS



HOSPITALS

TOBACCONISTS

CANDY STORES

INDUSTRIAL PLANTS

TRUCKS

AND OTHERS

Remington Corp., 13 Willey Street
Auburn, N. Y.

☐ Please tell me about Remington Dealer Plan
☐ Send me Remington Comfort Selector

Name

Address

City Zone State

What the serviceman should know about "VIRGINIA" REFRIGERATION products

"EXTRA DRY ESOTOO"

(B.P. +14°F.)

"Extra Dry" is the refrigeration grade SO₂ that service and maintenance engineers have endorsed for more than 20 years. Comes in all popular cylinder sizes.

"V-METH-L" (B.P. -10.7°F.)

Virginia Methyl Chloride is made specifically for refrigeration use. Low moisture content, low acidity and narrow boiling range recommend "V-Meth-L" for the most exacting requirements.

"FREON" REFRIGERANTS

"FREON-113"	"FREON-114"	"FREON-11"
Boiling Point	Boiling Point	Boiling Point
117.6°F.	38.0°F.	74.7°F.

"FREON-12"	"FREON-22"
Boiling Point	Boiling Point
-21.6°F.	-41.4°F.

Virginia Smelting Company is distributor for "Kinetic" Chemicals "Freon" Refrigerants.

**TO CHARGE A SYSTEM, USE REFRIGERANTS THAT ARE
CONSISTENTLY PURE, CONSISTENTLY SURE**

STOP THAT DRIP with *PRESSTITE* INSULATION TAPE

Now you can stop that constant drip of suction lines, circulating cold water pipes, valves and fittings—stop it once and for all with Presstite Insulation Tape. It quickly and effectively insulates against condensation, and it's so easy to use anybody can apply it. Presstite Tape comes in rolls 2" wide and 1/8" thick. It contains 40 percent virgin cork and will adhere to any metal surface. Wrappings can be built up to any thickness desired. Joints are self-sealing. No cements or other wrappings are needed. The convenient package contains 30 lineal feet. Stop customer dissatisfaction before it can start—use Presstite Tape on all new and reconditioned installations.



VIRGINIA
Refrigerants

**ASK YOUR WHOLESALER
OR WRITE
VIRGINIA SMELTING
COMPANY**

WEST NORFOLK, VIRGINIA

PHILADELPHIA • NEW YORK • BOSTON
CHICAGO • DETROIT • ATLANTA

Circle No. 20 on Reader Service Card for more information

JULY, 1951 • COMMERCIAL REFRIGERATION

SPORLAN

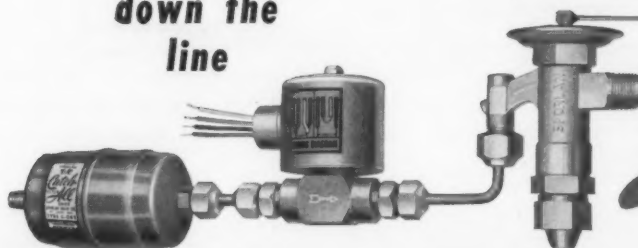
TYPE G VALVE
with Selective Charges

*does it.
again!*



SPORLAN
manufactures
SOLENOID VALVES
SOLENOID PILOT CONTROLS
MODULATING PILOT CONTROLS
REFRIGERANT DISTRIBUTORS
STRAINERS - CATCH-ALLS
and the *Only*
THERMOSTATIC EXPANSION
VALVES
with FLOWMASTER ELEMENTS
and SELECTIVE CHARGES

for **PEAK PERFORMANCE**
on all installations
... buy **Sporlan**
right
down the
line



Sporlan
VALVE COMPANY

SPORLAN
TV

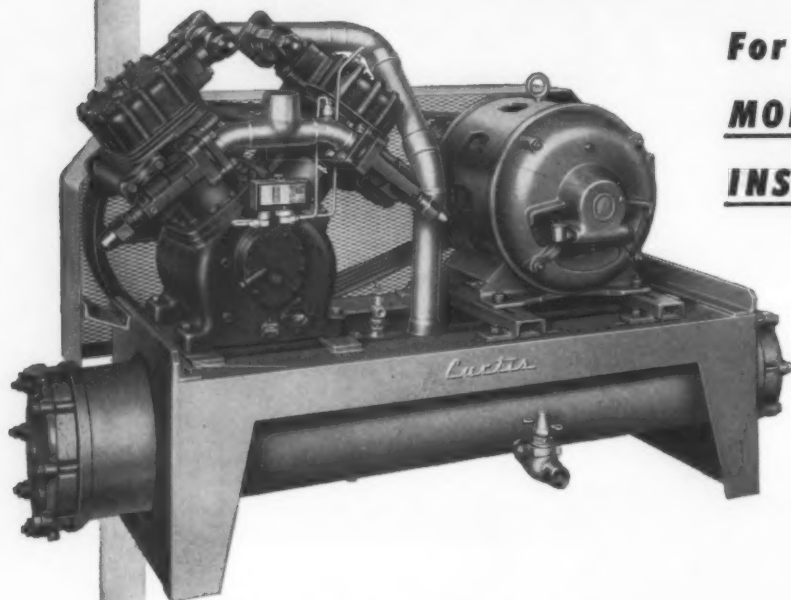
7525 SUSSEX AVENUE • SAINT LOUIS 17, MISSOURI

Circle No. 21 on Reader Service Card for more information
and **AIR CONDITIONING** • JULY, 1951

NOW A 40 H.P. CURTIS

WATER-COOLED CONDENSING UNIT

***For LARGER,
MORE PROFITABLE
INSTALLATIONS***

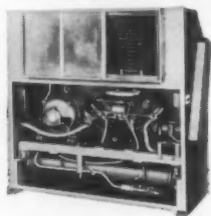


Some of the advanced design features that have made Curtis units so popular with the trade and the user in these larger models are:

- TIMKEN BEARINGS — LESS FRICTION — Easier adjustment.
 - PRESSURE LUBRICATION — With low-pressure safety cut-out.
 - SLOW-OPERATING SPEED — Economical — More capacity — Long Life.
 - UNLOADED STARTING — 3-step capacity reduction
- Complete range of condensers for any requirement.*



Packaged Type,
2, 4, 6, 8 Tons



Central Type,
10, 15 Tons

Pin this to your
letterhead and mail

With the broad Curtis line, you can handle all of the more profitable air conditioning and refrigeration installations. A limited number of franchises are open.

CURTIS REFRIGERATING MACHINE DIVISION
of Curtis Manufacturing Company
1915 Kienlen Ave., St. Louis 20, Mo.

I am interested in Curtis line.
Please send me complete
information.



Curtis

97 Years of Successful Manufacturing

Circle No. 22 on Reader Service Card for more information

JULY, 1951 • COMMERCIAL REFRIGERATION

YOU GET THE GREATEST SERVICE FROM

Prest-O-Lite CYLINDERS

Trade-Mark

FOR REFRIGERANT GASES



35-lb. capacity

HERE'S WHY:

1 Superior Quality

You're assured the best in cylinder design and production because of an unsurpassed "know-how" gained through more than 35 years of experience and skill by the largest manufacturer and user of compressed gas cylinders.

2 Longer Life

Many extra years of trouble-free life—and added resistance to denting, piercing, and corrosion—result from the stronger walls and durable construction.

3 Lighter Weight

Transportation costs are reduced, and the cylinders are easier to handle, because there are no extra-thick sections that only add weight without adding strength.

4 Uniform Wall Thickness

This advantage is worth special consideration. Unusually close tolerances in wall thickness mean greater overall protection.

5 They Surpass Code Requirements


You know sturdy PREST-O-LITE Cylinders will never let you down because they're made, tested, and inspected not only in accordance with I.C.C. Specifications, but they also undergo our own rigid tests far beyond standard requirements.

PREST-O-LITE cold-drawn cylinders for refrigerant gases are available in 5-lb. (rounded bottom or with foot ring), 10-lb., 25-lb., and 35-lb. sizes. You can have 50-lb., 100-lb., 150-lb. or special sizes and styles made to your specifications. Save more money in the long run by using the finest cylinders. Just mail the coupon today for complete information.

"Prest-O-Lite" is a registered trade-mark of Union Carbide and Carbon Corporation.

LINDE AIR PRODUCTS COMPANY

A DIVISION OF
UNION CARBIDE AND CARBON CORPORATION

30 East 42nd Street  New York 17, N. Y.

Offices in Other Principal Cities

In Canada:

DOMINION OXYGEN COMPANY, LIMITED, Toronto

LINDE AIR PRODUCTS COMPANY

R14

30 East 42nd Street
New York 17, N. Y.

Please send full information about PREST-O-LITE Cylinders for refrigerant gases.

NAME

COMPANY

ADDRESS



IF IT'S CUSTOMERS YOU WANT

...then start now and install

BRUNNER
SINCE 1906

AIR CONDITIONING

Last year we increased our production schedules on Brunner Self Contained Air Conditioners three times—demand was triple that for which we had planned.

This more than anything else we can tell you, proves that in a highly competitive market, Brunner units offered more of what the buyers wanted.

When a prospect asks what you have to offer it's a mighty satisfying feeling to say "Brunner," then proceed to show him design features that even a layman can understand will deliver air conditioning values which more than justify the investment.

There is no reason why you should sell the hard way—sell BRUNNER. It costs nothing to listen so use the coupon to make a date.

BRUNNER MANUFACTURING COMPANY

Utica 1, New York, U. S. A.

*Tear out
and mail!*

I'm willing to do more business. Have your factory field representative stop in and bring me up-to-date on what Brunner has to offer me as a dealer. Send current catalogs in the meantime.

Name _____

Company _____

Address _____

City and State _____

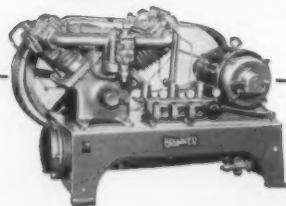
BRUNNER
SINCE 1906



AIR CONDITIONING

- Self Contained 3 HP. to 10 HP.
- Remote Type 3 HP. to 75 HP.

Completely Brunner built... backed by a fine reputation forty-five years old.



REFRIGERATION CONDENSING UNITS by
AIR AND WATER COOLED MODELS—a size
and type for every purpose... 1/4 HP. TO 75 HP.

BRUNNER
SINCE 1906

Circle No. 24 on Reader Service Card for more information

AUTOMATICALLY
the best...

THE BEST
...automatically

for FREON and AMMONIA

THERMOBANK

REG. U.S. PAT. OFF.

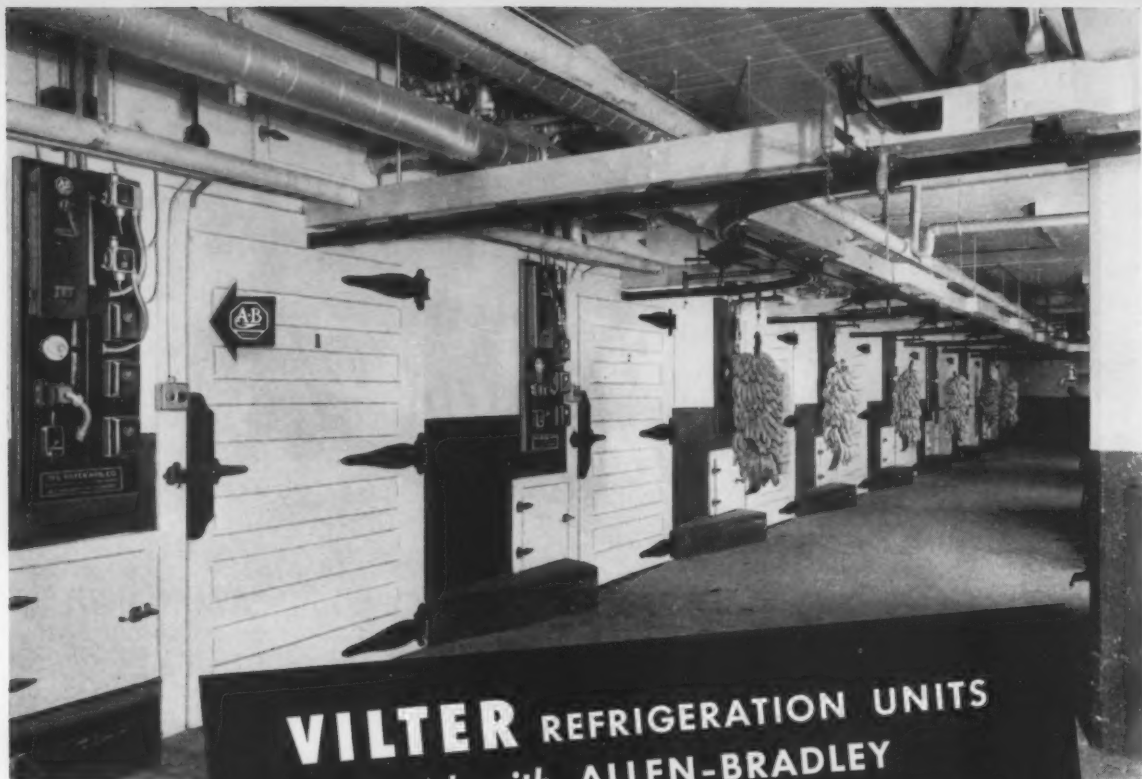
by **KRAMER**

The unquestioned standard of the industry
for complete automatic defrosting
at temperatures below 32°

WRITE FOR BULLETIN R-124

KRAMER TRENTON CO. • Trenton 5, N.J.

Circle No. 25 on Reader Service Card for more information
and AIR CONDITIONING • JULY, 1951



Vilter Refrigeration Units in a Detroit grocery equipped with A-B Bulletin 709 Solenoid Starters and Bulletin 712 Combination Starters...trouble free.

VILTER REFRIGERATION UNITS equipped with ALLEN-BRADLEY TROUBLE FREE MOTOR CONTROLS



Why are Allen-Bradley starters so popular for refrigeration and air-conditioning service? . . . Because they do not require regular attention; they are trouble free. Only ONE moving part. No pivots, pins, or bearings to corrode or stick . . . no jumpers to break. You install them . . . and forget them!

No contact maintenance . . . Allen-Bradley patented silver alloy contacts never need cleaning, filing, or dressing.

Dependable overload relays . . . Allen-Bradley thermal relays are dependable and remain accurate in their operation, even after long service.

The Allen-Bradley trademark stands for millions of trouble free operations.

Allen-Bradley Co., 1340 S. Second St., Milwaukee 4, Wis.

BULLETIN 709 SOLENOID STARTER

Bulletin 709 Solenoid Starter for automatic cross-the-line starting of squirrel cage motors. These starters are built in eight sizes, having a maximum rating of 300 hp, 208-220 v; 600 hp, 440-550 v. Dependable relays provide accurate overload protection. No voltage protection. White interiors and ample space for ease of wiring. Size 1 starter shown.



ALLEN-BRADLEY SOLENOID MOTOR CONTROLS

Circle No. 26 on Reader Service Card for more information

KEEP REFRIGERANTS

dry and clean

**WITH
MUELLER BRASS CO.
DELUXE DRIERS**

**Extra-capacity cone-screen filter
unequalled for efficiency in the
refrigeration industry.**

FORGED BRASS ENDS
Heavy duty type with
husky wrench flats.

**INLET CONTAINER
SCREEN**
Positive desiccant
retainer without
pressure drop.

**OUTLET RETAINER
SCREEN**
By itself, equal to
the filter elements
in most ordinary
driers.

DRYING AGENT
Installed under strict
laboratory control
with sealed charging
equipment.

**LOCKED-IN CONE
OUTLET SCREEN**
Extra capacity free
flow strainer surface.

WHITE WOOL DISC
Doubles filtering
capacity.

FILTER BED
Chemically cleaned
wool mass traps fine
metallic grit or other
foreign particles.

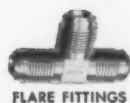
The millions of Mueller Brass Co. Deluxe Driers that are now in service provide the kind of proof you want—proof that no other drier can approach for all-around efficiency on-the-job, and for good reason. The Mueller Brass Co. Deluxe Drier is a typical example of the dependability and quality that Mueller laboratory and development engineers have made available in so much refrigeration equipment. The famous cone screen filter greatly increases the Deluxe Driers' working life. The filter strainer unit of the Deluxe Drier removes every minute particle of foreign matter from the line—keeping the refrigerant completely clean as well as dry.

Order now from your refrigeration wholesaler.

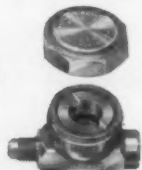
**Have these STREAMLINE products on hand
for every job where you want dependable
performance.**



WROUGHT COPPER FITTINGS



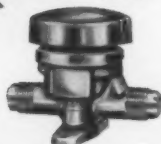
FLARE FITTINGS



LIQUID INDICATORS



VALVES

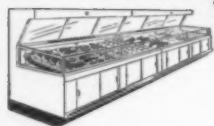


Write for catalog R-151
describing complete line
of STREAMLINE refrigeration
products.

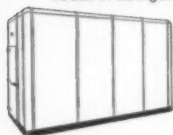
STREAMLINE refrigeration
products are individual
and multiple packaged for
complete protection.

MUELLER BRASS CO. PORT HURON 12, MICHIGAN

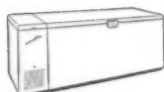
Circle No. 27 on Reader Service Card for more information
and AIR CONDITIONING • JULY, 1951



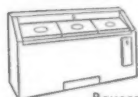
Reach-In Refrigerators



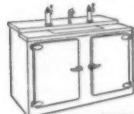
Walk-In Coolers



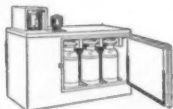
Home Freezers



Beverage Coolers



Beer Dispensers



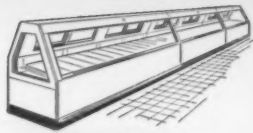
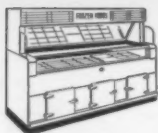
Milk Coolers



Display Cases



Open Display Cases



Continuous Display Cases

Tyler *moves ahead* *with 3 great names!*

TYLER FIXTURE CORPORATION

ORIGINATORS OF WELDED-STEEL COMMERCIAL REFRIGERATORS

HARDER REFRIGERATOR CORP.

SINCE 1856 — MANUFACTURERS OF QUALITY REFRIGERATORS

WILSON REFRIGERATION, INC.

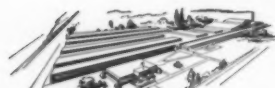
PIONEER MILK COOLER AND HOME FREEZER MANUFACTURERS

Tyler has purchased the operating business of Wilson Refrigeration, Inc., of Smyrna, Delaware, which will be operated as a division of the Tyler Fixture Corporation. Thus, the name WILSON—famous since 1927 as a leading manufacturer of milk coolers, freezers and commercial refrigerators—is added to HARDER—pioneer in home and farm freezers, and TYLER—famous for *welded-steel* refrigerator display cases and commercial refrigerators.

The Tyler commercial refrigerator line—the most complete in the world—will continue to grow! The enlarged Tyler organization enjoys a combined total of over 140 years experience, with over 16 acres of plant, office and warehouse space. Tyler will continue to develop new and better refrigeration equipment for food stores and eating places of all kinds, for the farm and for the home.



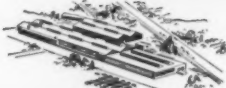
Shelving



NILES, MICHIGAN
Tyler Fixture Corporation
Main office and plant



COBLESKILL, NEW YORK
Harder Refrigerator Corp.
Division of Tyler Fixture Corp.



SMYRNA, DELAWARE
Wilson Refrigeration, Inc.
Division of Tyler Fixture Corp.



WAXAHACHIE, TEXAS
Tyler Fixture Corporation
Branch plant

Circle No. 28 on Reader Service Card for more information

*Air-flow test
using a flowrator
to check uniformity*



*for precise
refrigerant flow control...*

ANACONDA restrictor tubes

Numerous exacting standards—you'll find them listed below—control the manufacture of every ANACONDA Restrictor Tube. But ability to control, or meter, refrigerant flow within the narrowest limits is the most important to us—and to you.

To meet your specified flow require-

ments, not only is tube I.D. held to a tolerance of $\pm .001$ " or closer, but every tube is individually air-flow tested on a flowrator to guarantee fulfillment of your specifications.

This and all the other safeguards behind the manufacture of ANACONDA Restrictor Tubes are nothing new with

us—simply the most conscientious manufacturing care and unremitting, eagle-eyed inspection.

For full details about the fine engineering features of ANACONDA Restrictor Tubes for your refrigeration products, write to The American Brass Co., Waterbury 20, Connecticut. 0102

**Precision-made
for refrigeration**

ANACONDA[®] RESTRICTOR TUBES

These are the standards to which every ANACONDA Restrictor Tube is manufactured.

**Precise flow control by
flowrator test
Uniformity of I.D.
Uniformity of temper
Bright, clean and dry interiors**

Circle No. 29 on Reader Service Card for more information
and AIR CONDITIONING • JULY, 1951

here's
your answer

TO REFRIGERATION CONTROL PROBLEMS!

Tough defrosting job? Water-cooled jobs that are "mean" to handle? Want to control multiple refrigeration systems with one switch... or control polyphase motors without line starters? The answer to these and other control problems is... PENN.

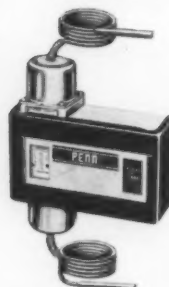
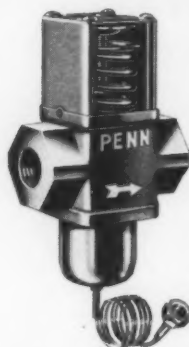
Yes... just like in most other products... there is also a big difference in automatic controls. And once you try PENN controls you'll learn that their performance *on the job* is the strongest recommendation for using PENN on every commercial refrigeration system.

In the complete PENN line, there is a type and model to fit your exact needs... a few types are illustrated here, there are many more. Take the first step in trying these better controls. Get your free copy of PENN's condensed catalog and price list. Ask your wholesaler or write **Penn Electric Switch Co., Goshen, Ind.** Export Division: 13 E. 40th Street, New York 16, U.S.A. In Canada: Penn Controls, Ltd., Toronto, Ont.



Penn Magnetic Line Starters are built in NEMA Sizes 0, 1 and 1½ and are available as open-type models for control panels or with General Purpose enclosures.

Series 246 Water Valves, zoned to keep water out of sliding parts, are built in threaded and flanged styles for all refrigerants and in sizes from ¾" to 2½".



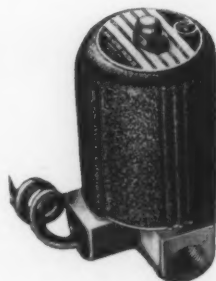
Series 275 Oil Protection Control with built-in Time Delay Switch for pressure-lubricated compressors prevents damage from low or slow pickup of oil pressure.

Penn Series 325 Time-Pressure Defroster varies automatically the defrost period to satisfy load conditions... eliminates seasonal adjustments... avoids unnecessary shut-down time.

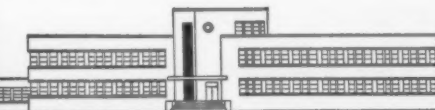


Penn Series 270 temperature and pressure controls have 2-pole construction and a direct reading calibrated scale which shows both cut-in and cut-out points.

Penn Series 221 Solenoid Valves are direct acting and may be used with all non-corrosive refrigerants as well as for water, oil or air.



PENN



AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, PUMPS, AIR COMPRESSORS, ENGINES, GAS RANGES

Circle No. 30 on Reader Service Card for more information

JULY, 1951 • COMMERCIAL REFRIGERATION

WE STILL THINK CRIME DOESN'T PAY, but lawbreakers in Coweta County, Georgia—those who get caught, that is—have it a good deal more comfortable these days than many of us who pride ourselves on following the “straight and narrow”. A committee from the state board of corrections, which visited the new “model prison” recently, found it equipped with air conditioning, and television for prisoners’ entertainment, too. They believe it may be the first air-conditioned prison in the country. On the serious side, officials believe the modern layout will pay out from a rehabilitation standpoint. It’s certainly a far cry from the sun-baked, stifling “cages” once used in the state. Large refrigerated food storage facilities are also included in the new institution. It’s a new sales field, sure enough.

HEATING WITH ATOMIC FUEL is seen as a possibility in the not-too-distant tomorrow by E. J. Gossett, president of Bell & Gossett Co., Chicago. Without benefit of a crystal ball, Gossett said he could see nuclear fission as a source for heating fuel “within 25 to 30 years—maybe sooner—barring the complete cessation of peacetime atomic research due to a third world war”. He predicted as the next big innovation in home heating an economy-sized atomic pile which would be capable of heating the home all year at a cost which would be less than the average family’s present fuel bill for one month.

NEW YORK’S NEWEST SKYSCRAPER, the Massachusetts Mutual Life Insurance Co. building, will be completely air conditioned by means of a roof-top installation. Four steam-operated absorption machines, each having a capacity of 275 tons, will be used. These are the first absorption units to be produced with a capacity beyond 200 tons, and similar models will range up to 300 tons, it is said.

FROZEN BEER AND WINE may soon be added to the growing list of frozen concentrates, if we can believe what we’ve heard recently. It seems that a German firm has applied for patents from the United States and 11 other nations on a process for concentrating and quick freezing the beverages. According to a company spokesman, the contents of an eight-ounce tin mixed with cold water will give a full quart of Pilsner beer or Rhine wine. No telephone orders, please!

IRON AND STEEL SCRAP is urgently needed, the National Production Authority reports, if production schedules of iron and steel for the defense program and our civilian allowances are to be met. The flow of scrap to mills and foundries is not keeping pace with consumption, NPA says, and inventories are falling below safe working levels. Mills, to meet 1951 production needs, will need 3 million *more* gross tons of purchased scrap than in 1950. All industries are being asked to organize a program to (1) search out all dormant scrap and (2) get it into normal channels as soon as possible. So why not look around your shop or plant and see what you can scrape up? Regular scrap dealers will be glad to buy it.

SILVER-CLAD STEEL STRIP is now available as a substitute for brass and other restricted metals, reports the Rolled Plate Division of the American Silver Co., Inc., Flushing, N. Y. The strip is available in widths up to 4”, in thicknesses down to .005”, and in any required temper. It may be used as a substitute for brass, nickel-silver, nickel and other restricted metals, subject to NPA Order M-47, the company says, and can be shaped by bending, stamping, drawing, spinning and other conventional metal-working processes. Component parts can be assembled by means of silver brazing or soft soldering.

RADIOISOTOPES are finding an early application in industrial circles. B. F. Goodrich Co., for example, is attempting to use radio-phosphorous to trace leaks in the cooling water line of an air conditioning system.

3 Ways Refrigeration Equipment Helps Feed Factory Workers

FOOD



ON WHEELS

Lunch carts bring a wide variety of food to workers who cannot reach plant cafeterias. Plug-in refrigeration makes possible dispensing of cold beverages and ice cream, as well as sandwiches and hot dishes.



FROM VENDING MACHINES

Coin operated vending machines provide a "come and get it" source of milk, sandwiches, coffee, and desserts. Refrigeration is the answer to keeping milk cold and sandwiches moist and palatable.



AT SNACK BARS

Refrigeration is equally important at snack bars which can be spotted strategically throughout a large plant to save workers the time and effort involved in lunching at a centrally located cafeteria.

FACTORIES are likely to be a major market for refrigeration and food service equipment of all types, according to a survey of 240 company food services recently completed by the Paper Cup and Container Institute. The survey was made to find out what management had learned about in-plant feeding from its experience in World War II, when makeshift arrangements had to be devised to feed large numbers of war workers.

In many instances, the Institute found, companies built and equipped cafeterias as soon as materials were available at the end of the war. These companies hope to handle any foreseeable expansion with kitchen facilities already on hand, perhaps by staggering lunch periods in the cafeteria. Of the 239 companies who told their plans in November, 1950, 46 are going to expand their food services, and 60 aren't sure whether they will have to do it or not. But if they had to expand, most would add mobile units, canteens, or snack bars. The plans mentioned ran as follows:

- 46 would add mobile units or food carts
- 43 would enlarge existing cafeterias
- 33 would add canteens or snack bars
- 28 would open a new cafeteria line
- 25 would add food and drink vending machines
- 21 would build a new cafeteria
- 2 wrote in that they would stagger lunch periods

Cafeterias are still the most popular method of in-plant feeding, followed by food carts served from a central commissary.

Snack bars and canteens, which sell a few hot dishes, beverages, coffee and packaged cakes and pies, are more popular now than they were at war peak, and are preferred where space is at a premium or where it is necessary to reach workers far away from

FOR FACTORIES

the cafeteria. Equipment for these service points must be compact, and as much as possible of the food preparation and storage should be done in a central kitchen where large refrigerators and full-sized ranges are practical.

Food carts, which are widely used in spread out aircraft plants, may be elaborate enough to include refrigerated units to keep ice cream, but in some cases the cart has only an insulated container which holds individually packaged ice cream, usually in paper containers during the trip. Some of them have heating units that can be plugged in anywhere along the line.

Because of the difficulty of getting and holding cafeteria personnel, the tendency is to use factory wrapped products which make little demand on counter men and keep cafeteria lines moving. Open top ice cream cases located at the end of the line, near the coffee urn, accommodate the large number of workers in every factory who bring a lunch from home and want to supplement it with a dessert and beverage. Lidded paper containers of ice cream and hot drink paper cups beside the coffee urn allow customers to help themselves quickly, eliminate the return of crockery, and make it possible for employees to carry their purchases to another part of the plant or outside. They also eliminate dishwashing on the most popular food and beverage items on the menu.

Many factory food services make their own fruit drinks from syrup and serve them over the counter in paper cups well filled with cracked ice. This arrangement pleases safety and maintenance crews who don't like to see glassware or bottles carried all over the plant. The "home made" drinks please budget conscious employees because they can be priced lower than bottled beverages, they please dietitians because of their nutritive con-

As the pace of the nation's defense mobilization accelerates, more and more industrial plants are faced with the problem of feeding more and more workers, as the survey figures below indicate. All of these expanding food service facilities center around some sort of commercial refrigeration equipment. Are you getting your share of this essential business?

Participation in Plant Food Services November, 1950

Size of Plant	No. of Plants Reporting	Total No. Employees in Size Group	Total No. Employees Fed in Size Group	Percent Fed
0-999 employees	18	11,652	6,971	60
1000-1999 employees	95	131,930	82,187	62
2000-2999 employees	42	98,094	63,655	65
3000-4999 employees	21	75,733	44,670	59
5000-9999 employees	17	110,240	54,665	50
Over 10,000 employees	13	239,746	140,975	59
TOTALS	206	667,395	393,123	59

Note: Table above includes only those giving complete answers.

Possession of Various Food Services November 1950 and War Peak*

	Nov. 1950	Percent of Total	War Peak	Percent of Total
No. Plants Reporting	215	100%	176	100%
No. Plants with Cafeterias	169	79%	133	75%
No. with Waiter Service Restaurants ..	28	13%	26	15%
No. with Snack Bars or Canteens	61	28%	40	23%
No. with Mobile Units or Food Carts ..	71	33%	58	33%

*Percentages don't total 100 because most plants have more than one type of food service.

tent, and they permit the factory food service a more generous margin of profit than is customary with factory bottled drinks.

Cafeterias in large plants often have walk-in refrigerator rooms and some of those built in 1945 and 1946 even have frozen food rooms. However, many food service managers complain that the facilities with which they are working aren't well adapted

to their operation. Factory managers who plan to expand their food service would do well to consult the caterer who is handling the job for them or their own food service people before approving blueprints. By the same token, the man who is going to be responsible for the feeding job is the one for the refrigeration salesman to interview at some length. Buying

Continued on page 80

SPREAD 'EM OUT

If windows are plentiful, a window cooler can be installed in each to provide a total cooling capacity far greater than that normally associated with window cooler applications. These four units in the Home Plate Cafe, Del Rio, Tex., show one way in which window coolers can be used to condition fairly large areas. A fifth unit in a side window is not shown.



PILE 'EM UP

If windows are scarce, the same results can be obtained by stacking the window coolers one on top of another in the window areas which are available. The six units used to condition this large Hongkong office are mounted in tiers of three on specially built racks at the two available windows. Inlet and outlet ducts equipped with exhaust fans connect these units with the outside.

Window Coolers Go Commercial

SMALL window-type air conditioners can be adapted to do a much bigger job than they were primarily designed for, if you exercise a little ingenuity in putting them to work.

Two graphic examples of the types of applications that window-type units can be made to do are the Home Plate Cafe in Del Rio, Tex., where five one-ton units serve a large dining area, and the general offices of A. S. Watson & Co., Ltd., half-way across the world in Hongkong, China, where eight window-type units, six of them arranged in tiers, handle a job that normally would call for larger packaged or central-plant type equipment. Both installations use Frigidaire units.

Water supply problems, present in both instances, pointed toward use of the smaller, air-cooled air conditioners. In the Del Rio, Tex., job, the owner didn't want a cooling tower on the grounds nor on the roof of the building, and a survey revealed that it was impossible to install the water tower, evaporative condenser or any other water-saving device anywhere inside the building. In the case of the Hongkong job, the offices to be served had low-voltage electrical circuits, prohibiting the use of large-capacity air conditioning equipment without expensive rewiring. Also, office space was limited and there wasn't room for a "remote" system.

In the Hongkong installation, another barrier to use of the small air-cooled units was that there were only two windows in which to install them. Normally, that would leave six units without any space in which they could be located. But C. L. Salter, the man who sold the job, figured this one out, too. He found the company needed more book storage space—so he built two "book-cases", and mounted three one-ton conditioners in tiers over each of them. The units operate through special voltage adjusting transformers.

The extra book storage space provided by the installation arrangement more than make up for the loss of floor space. In normal weather, one of the two "systems" can handle the cooling load; the second system furnishes extra capacity for abnormally hot-humid days.

Looking again at the Home Plate Cafe installation. After experimenting with the window-type units for several weeks with the assistance of salesman Carlos Chacon, operator Arturo Gonzales found that if he turned on the units early in the day, before the sun really had a chance to bear down, he could get a shorter cooling-down period. With the aid of venetian blinds on the sunny side of the building, temperature could be lowered from 95 F to 83 F in just an hour. During evening hours, only four of the five units are required.

HOW TO GET THE MOST OUT OF SUNISO REFRIGERATION OILS



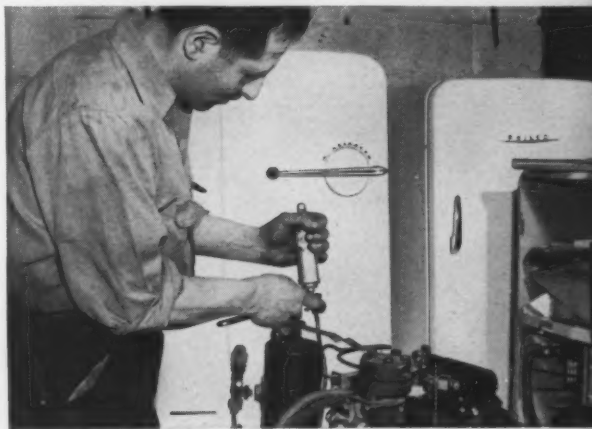
SUNISO OIL comes to you clean and dry—less than 20 parts of moisture per *million* parts of oil. Keep it that way for best results. Pry off the airtight seal with *clean* tools. *Replace the cap immediately* after drawing off the oil, thus keeping the remainder from absorbing moisture from the atmosphere.



CHARGING COMPRESSORS sometimes calls for a funnel or a piece of tubing; *make sure they're really clean*. A little dirt can do a lot of damage to closely machined and fitted parts. If you suspect you've gotten dirt into the oil, discard it. Your reputation is worth more than a can of oil.



IN CHARGING HERMETICS, the only way you can do an exact and thorough job is to use a well-designed charging board. Proper maintenance of this equipment is important. To be sure of getting the long, trouble-free service for which hermetics are noted, keep supply tank, tubing and valves *as clean as you possibly can*.



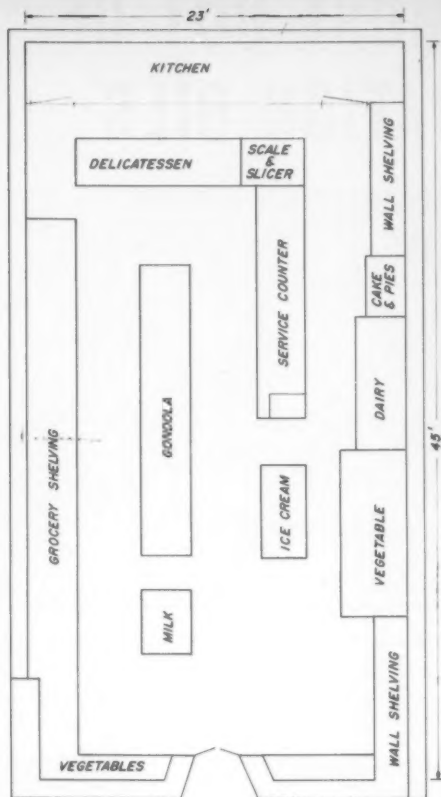
INSTALL A DRIER whenever you have reason to believe the oil or the system has picked up moisture. Frozen moisture can clog capillaries, expansion valves and other important parts. Properly installed, a silica gel drier—like this one being connected to a domestic unit—is highly efficient. It can save you many a service call-back.

Johnston Refrigeration of Detroit, where these pictures were taken, has used Suniso exclusively for 14 years. The shop foreman says that, unlike some of their competitors using other oils, they have never had wax or sludge problems. Many of the units Johnston services have not had to be recharged in over 12 years. And some of the boxes they service run constantly at -35°F . For a free booklet describing the various grades of Suniso Refrigeration Oils, call the nearest Sun Office or write to Department RN-6.

SUNISO REFRIGERATION OILS

SUN OIL COMPANY, PHILADELPHIA 3, PA. • SUN OIL COMPANY, LTD., TORONTO AND MONTREAL





◀ BEFORE ▲

Modernizing the "friendly neighbor touch"

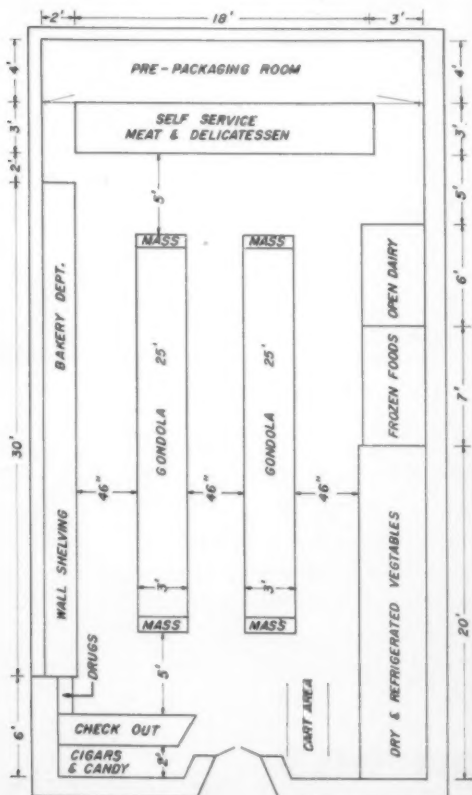
Boosts Business 30%

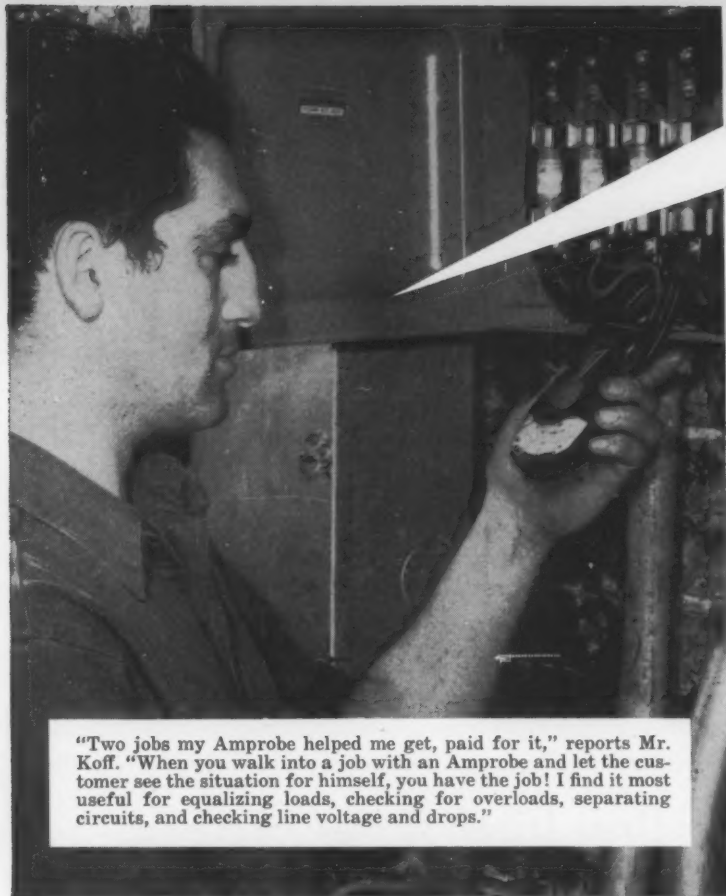
PROOF that a grocer doesn't have to abandon that "friendly neighbor touch" when he modernizes his store is offered by these before-and-after plans and photos of H. Niebank & Sons' retail food market in Jersey City, N.J., which has been in business since 1891.

As progressive businessmen, the sons of the store's founder felt the need of a self service operation to increase their business without sacrificing the store's important neighborly touch in serving customers with "home-made" potato salad, fish cakes, rice pudding, sauerkraut, and similar delicatessen items.

They took their problem to Engineering and Refrigeration, Inc., local commercial refrigeration dealer. The accompanying illustrations show how it was solved so effectively that the store now is doing 30% more business with the same amount of selling area and the same amount of help.

◀ AFTER ▼





"Two jobs my Amprobe helped me get, paid for it," reports Mr. Koff. "When you walk into a job with an Amprobe and let the customer see the situation for himself, you have the job! I find it most useful for equalizing loads, checking for overloads, separating circuits, and checking line voltage and drops."

**"ONE OF
THE BEST
INVESTMENTS
I EVER MADE"**

writes George Koff,

electrical contractor

214 S. 53rd St., Phila. 39, Pa.



\$49⁵⁰

*complete with
genuine top grain cow-
hide leather case and
voltage test leads.*

OTHER AMPROBE USERS SAY:

"It has taken the guessing out of my work. I can't do anything else but recommend the Amprobe highly to anyone in the trade."—*Paul Schreiter, Commercial Refrigeration, 810 Oswego Street, Allentown, Pa.*

"Wouldn't be without one."—*M. C. Bondus, Plant Supt., Cargill, Inc., 122nd St. and Torrence Ave., Chicago 17, Ill.*

"The Amprobe is the one instrument I have been looking for for years to do both jobs of testing amperage and voltage. It is the easiest to carry and to handle of any test equipment I have used."—*Paul W. Spinney, Electrical Contractor, East Landis Ave., R-5, Vineland, N. J.*

AMPROBE—THE SNAP-ON VOLT-AMMETER THAT FITS IN YOUR POCKET!

Reads current without interrupting circuit or breaking insulation

Look what you can do with this one pocket-size tool: Determine load conditions instantly without having to shut down equipment. Spot motor overloads and underloads. Diagnose trouble calls faster, under actual load. Check line voltage and drops. Set overload relays, etc.

- So compact, it fits in your pocket.
- $\frac{1}{2}$ the usual size—only 7".
- $\frac{1}{2}$ the usual weight—only 14 oz.
- Accuracy: $\pm 3\%$ (of full scale deflection).
- Field-proved and accepted—tens of thousands in daily use today.
- About $\frac{1}{2}$ the usual price.

AMPROBE 10X SENSITIZER



Effectively gives the Amprobe 3 additional ranges: 0-1 AMPS.

0-2.5 AMPS. **\$375**
0-5 AMPS.

Model A-6 measures 5 A.C. current ranges: 10/25/50/100/250 amperes; plus 2 A.C. voltage ranges: 150/600 volts. Two other models available.

AMPROBE®

A PYRAMID INSTRUMENT

See it today at the better electrical distributors



**Send for
this 16-page manual**

PYRAMID INSTRUMENT CORP.
49 Howard Street
New York 13, N. Y.

Please send me your new 16-page Manual—"HOW TO MAKE YOUR JOB EASIER WITH AN AMPROBE."

Send literature on Amprobe Sensitizer and Split Plug.

(print your name, company and address in the margin)

Circle No. 33 on Reader Service Card for more information

and AIR CONDITIONING • JULY, 1951

It's a Fact with Refrigeration Servicemen

DETROIT'S PLAN PUSHES YOUR BUSINESS CURVE UP!

DETROIT'S aggressive, hard-hitting advertising plan plugging periodic service checkups has scored a solid success with refrigeration servicemen everywhere. Attention compelling full page DETROIT advertisements appearing month after month in publications covering the drug, meat, grocery, restaurant, dairy and ice cream fields are constantly at work selling more and more users of commercial refrigeration equipment the vital necessity for proper refrigeration maintenance. It's a plan both powerful and practical—designed and working to build new service business, new service profits for you!

Here's What They're Saying—



A PROMINENT WHOLESALER SAYS:
"As a wholesaler I can certainly report that everyone in my territory is enthusiastic about DETROIT'S plan."



A REFRIGERATION SERVICE ENGINEER STATES:

"DETROIT'S timely campaign has really taken hold with my customers. More and more of them are interested in keeping their equipment in tip-top shape."



A MANUFACTURER WRITES:

"Congratulations on a splendid campaign. It's bound to do a great job for the entire refrigeration industry."



ASK YOUR **DETROIT** WHOLESALER
FOR YOUR SUPPLY
OF "INDUSTRY SLOGAN STICKERS"

DETROIT

LUBRICATOR COMPANY

Division of **AMERICAN RADIATOR & Standard Sanitary Corporation**
RAILWAY & ENGINEERING SPECIALTIES, LTD.
Canadian Representatives in Montreal, Toronto, Winnipeg.
EXPORT DEPT.—Box 218 Ridgfield, New Jersey

Circle No. 32 on Reader Service Card for more information

Everywhere—



DETROIT PRODUCTS KEEP IT UP!

Install **DETROIT 777** Thermostatic Expansion Valves for Real Customer Satisfaction!

A satisfied customer is a *steady* customer—and steady customers are the backbone of any business. That's why it's smart to install **DETROIT 777** thermostatic expansion valves. These remarkable valves pay off with the kind of steady, efficient, dependable performance that means real customer satisfaction. Then, too, the 777 series was designed to make your job easier. Their rugged, compact construction makes them a cinch to install on even the most space limited jobs. And their simple design all but eliminates any service problems. But why not find out for yourself? See your **DETROIT** wholesaler today and ask about **DETROIT 777**—liquid charged with or without pressure limiting or with external equalizer connection in capacities from $\frac{1}{2}$ to 2 tons Freon-12.



"A Natural" for SALES and Profits!

- ★ Simple, compact, and rugged construction.
- ★ Large wrench flats—for standard wrenches.
- ★ Cartridge needle and seat assembly simplifies cleaning and inspection.
- ★ Accessible superheat adjustment.
- ★ Stainless steel and brass throughout.
- ★ Anchored Capillary for strength.
- ★ Polished Flare Faces.
- ★ Ball-Type Needle gives desirable flow characteristics.
- ★ Interchangeable inlets $\frac{1}{4}$ and $\frac{3}{8}$ SAE.



**DETROIT HEATING AND REFRIGERATION CONTROLS • ENGINE SAFETY CONTROLS
FLOAT VALVES AND OIL BURNER EQUIPMENT • DETROIT EXPANSION VALVES AND
REFRIGERATION ACCESSORIES • STATIONARY AND LOCOMOTIVE LUBRICATORS**

Serving home and industry.

AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS • DETROIT LUBRICATOR • KEWAUNEE BOILER • ROSS HEATER • TONAWANDA IRON

LOW TEMPERATURE IN INDUSTRY

3. Maintenance problems

By Thomas J. Lopiccolo

Vice President

Bowser Technical Refrigeration

A BRIEF discussion now as to design, maintenance, and service hints for the serviceman in approaching a low temperature system, whether it be single, two, or three stage compound or cascade, seems to be in order at this time.

As was pointed out previously, special expansion valves are necessary for this low temperature work. Standard valves with standard power assembly charges are not satisfactory and, as a result, it should be remembered that when servicing a low temperature installation, it is absolutely necessary to replace an expansion valve if found defective with one of exactly the same nameplate rating and specification. There has been more harm done in maintaining equipment by misapplication of expansion valves than for any other reason.

Watch Valves Closely

Particular note should be paid to the location and installation of the remote feeler bulb of this expansion valve. Also, when removing expansion valves, care should be taken to prevent the entrance of air or moisture, since a system operating at -100F has an extreme affinity for moisture. This is due to the vapor pressure of moistures in the air being considerably higher than the pressure within the system.

The presence of oil around an expansion valve, when being removed, indicates that an excessive amount is being circulated and immediately should indicate to the serviceman that

the oil separator should be investigated as to performance and cleanliness of the float seat in the separator.

As for the use of oil separators in the system, it has been explained previously that it is absolutely imperative to insure against the circulation of oil in excessive amounts, and as a result, the proper performance of the system depends upon the proper operation of the oil separator. Dirt within the system invariably clogs at the most unwanted places, such as expansion valves and in the valve seat of oil separators.

It is advisable to learn, by the sense of touch, the normal operating temperatures of systems when they are properly operating. In other words, get the feel of discharge temperatures, crankcase temperatures, etc. If you become familiar with what is normal and what is abnormal, it is extremely easy to analyze faulty operation of equipment by an intelligent analysis of operating temperatures. This, together with gauge readings, will invariably tell 99% of the story. As far as oil separator operation is concerned, the temperature of the oil return line will invariably give a clue to the proper or improper operation of the separator.

The subject of oil was discussed briefly with regard to the extreme requirement placed upon the petroleum industry to furnish lubricating oil which must withstand the extremely high temperatures of compressors, as well as the extreme low temperatures within evaporators, and it should be pointed out here that great strides have been made within recent years in the design and manufacture of synthetic as well as the manufacture of natural oils for this application. The fundamental and basic requirements for a good low temperature refrigeration oil are that the oil pro-

vide high film strength and good lubricating qualities when heated to crankcase temperatures of approximately 180F maximum.

It must also provide free flowing characteristics and non-dewaxing characteristics in low temperature evaporators where the refrigerant temperature approaches -110F or even colder. If the compressor is splash lubricated, then the viscosity of the oil should be considerably lower than if the compressor is force-feed lubricated. Each condensing unit manufacturer specifies the necessary oil to maintain proper lubrication of bearing surfaces for his own compressor.

Don't Mix Oils!

It is absolutely imperative that the service engineer recognize that all lubricating oils are not interchangeable one with the other, and that the same oil must be added to the system as was previously installed therein. Oils are not oils as such. They cannot be blended by the field man.

If it is found necessary to change oil in the system, it should be drained completely from the crankcase of the compressor and from the oil separator, and the entire refrigerant system, from condenser receiver through the liquid line and evaporator to the suction of the compressor, should be thoroughly flushed out with carbon tetrachloride and the complete system evacuated to remove the last traces of carbon tetrachloride before fresh refrigerant and fresh oil can be added to the system. This point cannot be stressed too strongly and should be remembered.

I am sure that no good refrigerating engineer would think of adding a different refrigerant to a system that

Continued on page 82

about PEOPLE

C. C. Grote has been promoted to sales manager of Sporlan Valve Co.,



C. C. Grote



J. T. Barry

with the company for the past 10 years, was formerly head of the sales promotion and advertising division. In his new capacity he will be responsible for the direction of sales activities of the company's 26 district sales offices. **E. A. Fairchild** has been named manager of sales promotion and advertising, succeeding Gibbs. Fairchild has a 10-year background of industrial advertising and sales promotion work, and most recently served as account executive with Price, Hedrick & Tanner advertising agency, Saginaw, Mich.



Frank Jaeger

St. Louis, and **J. T. Barry** has been appointed western sales manager of the company, with headquarters in St. Louis. Grote, whose headquarters are in Mt. Vernon, N. Y., has been eastern

sales manager. In his new post he will be responsible for all Sporlan sales. Barry formerly was sales engineer for Sporlan in the midwest area. **Frank Jaeger**, formerly with Servel as field sales engineer, has been named to replace Barry.

A. C. Dappert, general sales manager of Mueller Brass Co., Port Huron, Mich., has announced the appointment of **Robert L. Gibbs** as



E. A. Fairchild



R. L. Gibbs

manager of sales personnel of the organization. Gibbs, who has been

F. N. (Neil) Robson has been named manager of the eastern district office of Superior Valve & Fittings Co., it has been announced by George R. Allen, vice president of the company. Robson's headquarters will be at 2303 Lincoln Building, 60 E. 42nd St., New



Neil Robson

York City. He has been assistant sales manager of Superior since returning from navy service in 1946, and has been with Superior since 1942 in the Pittsburgh sales office and as assistant to the eastern district office manager. **T. E. Cunningham** will succeed Robson as assistant sales manager. He has been assistant manager of the Chicago office and warehouse since 1945.

King Daywalt has been appointed sales manager of the Rubatex Division of Great American Industries, Inc., it was announced recently by Walter J. Maxwell, vice president and general manager. Daywalt will make his headquarters at the plant in Bedford, Va.

Nelson S. Bloomenstein has been appointed director of sales and research at Frigid-Igloo Mfg. Corp. of Yonkers, N. Y. He has been sales manager and vice president at Ace Cabinet Corp. Prior to that he was special representative at Servel, Inc., and recently sales engineer at Coldin Cabinet Corp. During World War II he designed a portable rivet freezing self-contained cabinet and a self-contained subzero (-75) cabinet for the testing of radar and radio parts.



Appointment of four new district sales managers has been announced by E. A. Terhune, vice president in charge of sales for Fogel Refrigerator Co., Philadelphia. **George T. Estfan**, with headquarters in Wichita,



G. T. Estfan



J. L. Kahn



V. P. Warren II



J. E. Oliphant

will direct sales in western Missouri, parts of Iowa, and the states of Kansas, Nebraska, Oklahoma and Arkansas; **V. P. Warren II**, with headquarters in Atlanta, will handle the Fogel line in several southeastern states; **J. E. Oliphant**, of Marion, Ohio, will direct sales operations in northern Ohio, Michigan, and northern Indiana, assisted by W. W. Oliphant and Paul L. Wasson; and **J. L. Kahn**, of J. L. Kahn & Sons, New

Continued on page 52



PACKAGES

can do the job

PACKAGES . . . packaged-type air conditioning equipment, that is . . . can be as attractive to industry as they have always been to the stores and shops that line the Main Streets of America—and all it takes to do the job is a simple shift in selling pitch.

During World War II, hundreds of self-contained air conditioners went into plants and factories, worked “in overalls”. They were installed in laboratories, drafting rooms, plant cafeterias, test rooms, gauge rooms, processing and storage rooms, precision machine shops, hospital operating rooms—to name only a few of the jobs to which they were put.

But the World War II installation possibilities were restricted by two important factors—the units were not available in size ranges that fit them to many applications, and they were merely simplified cooling packages that didn’t do a complete air conditioning job.

Since then, though, all of this has changed. Packaged-type equipment, as most of us think of it, is available from several manufacturers in a range up to 15 tons, and in other cases equipment embodying all the advantages of packaged units can be had in capacities considerably larger than this.

Too, modern packaged units perform all the functions of complete air conditioning—cooling, dehumidifying, ventilating, circulating, and filtering air—the same functions found in the largest, most elaborate “tailored” systems anywhere. And today’s units can be operated with or without ductwork, as individual conditions require.

The increase in defense activity makes the merchandising of packaged air conditioners to essential production activities particularly important right now. And another advantage of selling to these “essential” fields is that your air-conditioning activity is a year-round affair, not just a warm-weather months promotion. For industry needs, and uses, air conditioning in every month of the year. It’s just as important in January as it is in July.

(Photos from Westinghouse, Airtemp & Carrier.)



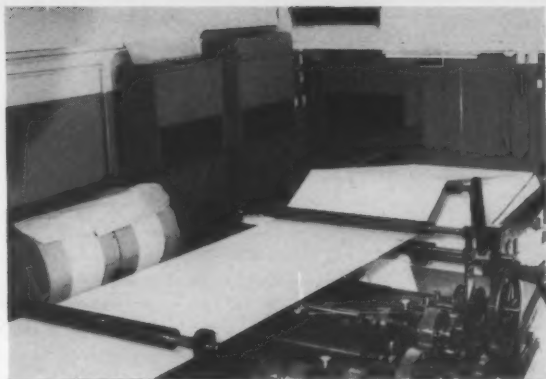
RESEARCH LABORATORIES can make use of packaged air conditioners to maintain the clean, constant temperature required in their testing work. Ducts can be added if more than one room is involved.



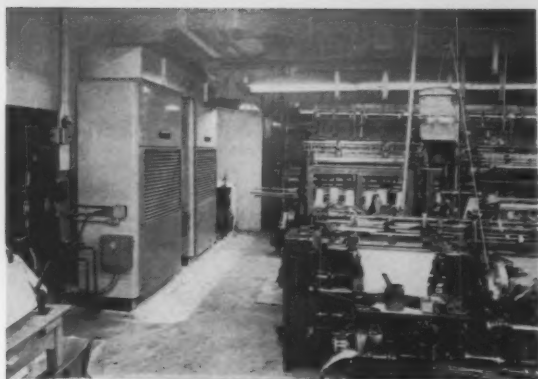
PRECISION MANUFACTURING operations, which require controlled temperature and humidity, can be served by packaged equipment, as shown here. Air conditioning reduces rejects, improves product quality.



DRAFTING ROOMS are air conditioned for both work efficiency and precision production, for drawings are made to scale, and must be accurate. Draftsmen do better work when they’re comfortable, studies show.



PRINTING PLANTS need air conditioning to improve the quality of finished work by controlling moisture content of paper, aiding color register, reducing paper breakage. Packaged units can handle this job.



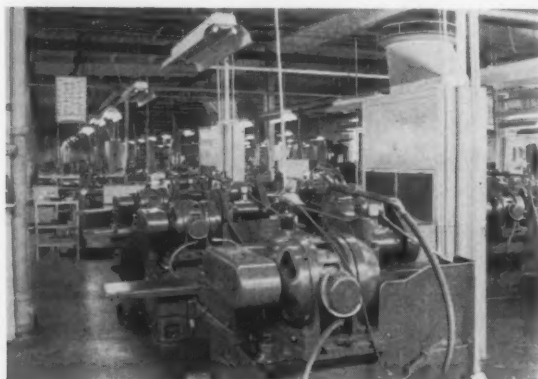
TEXTILE MILLS, particularly those working with synthetic fibers, can use packaged air conditioners to control quality of product as well as to safeguard employee health and improve plant efficiency.



FOOD PROCESSING operations, for the most part, are readily adaptable to the use of packaged air conditioners. Here, for example, the units are used to aid processing and grading in an egg storage plant.



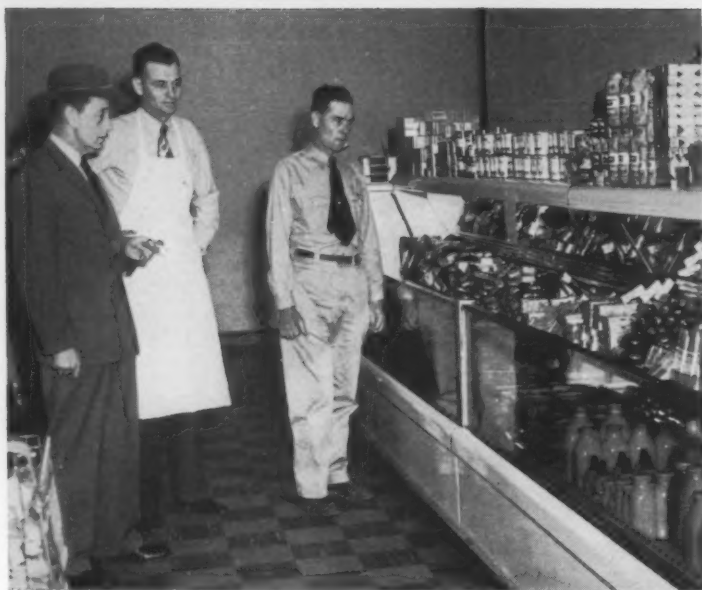
QUALITY CONTROL laboratories, where tests of textiles and similar industrial products are conducted, must maintain uniform conditions if tests are to be of any value for comparisons. Units serve for this job.



TOOL MANUFACTURING plants are another example of applications to which packaged cooling equipment can be put. Constant conditions must be maintained for accurate production to maintain uniform high quality.



FACTORIES like the one shown here are increasing their use of air conditioning because experience has proved to them that it definitely increases production, cuts spoilage. Another spot for packages.



McFarland (left), his customer, and his serviceman look over a new installation.

Trade-ins should

TO CLOSE the sale, Dealer McFarland sold this new case for a figure which netted him \$170, or \$80 less than the \$250 profit which he had anticipated. On top of this, he accepted a trade-in for \$50. This box then was inventoried at \$130. On the basis of past experience he figures that this box will cost him \$40 to recondition, plus another \$50 for warranty, so the trade-in then actually will stand him \$220. If he then sells this box for \$420, he will have made an even \$200 on the transaction, while his cost on the trade-in (\$220) allows him to clear up his deficient profit on the new box sale as well as cover all actual expenses involved in the resale of the trade-in. At no time is there a chance for any wrong inventory using this method.

Speaking of Trade-Ins

THERE are no trade-in problems involved in the commercial refrigeration business that the individual dealer doesn't create for himself. And by the same token that he can create these problems, the dealer can eliminate them, or—better yet—avoid them entirely.

Most of the confusion involved in trade-ins stems from the common error of confusing gross profit with net profit.

Actually, gross profit doesn't exist. It is nothing more than a convenient figure from which auditors can work backward. It is used arbitrarily as a factor against which all expenses can be charged in order to arrive at a conclusion that will balance with your bank account.

Let's take a new box that lists for \$1000. Roughly, it will cost the dealer \$650 installed in the customer's establishment with provision for warranty and free service. We could sell that box for \$850 and be happy, were there no trade-in to be considered.

The dealer can operate on that margin and come out ahead of the game providing he does sufficient volume. But if he can only sell and install two such deals per month he cannot possibly make wages and pay overhead.

McFarland, for several years a regional supervisor for Ed Friedrich Sales Corp., now is operating on his own as a commercial refrigeration distributor in Austin, Tex.

However, there are few deals that do not involve a trade-in. And competition also becomes a factor.

Many dealers are, seemingly, adverse to making money. Their reward, obviously, comes from the number of units they can scatter over their territory. Operating on the ragged edge of financial security means nothing to them.

Naturally, these dealers offer their competitors a challenge. And the challenge must be met, or you just sit. Consequently very few \$1000 boxes are going to be sold for \$1000.

Therefore we have to go back to that \$850 selling price previously mentioned, and start our figuring from that point. We have to establish the fact that we are going to be happy with a profit of \$200 on a box that cost us \$650.

It is reasonable to suspect, however, that when we price or offer a \$1000 box for \$850 and take in a box in trade we are not going to make our \$200 that we agreed to be happy with. That is, we won't unless . . .

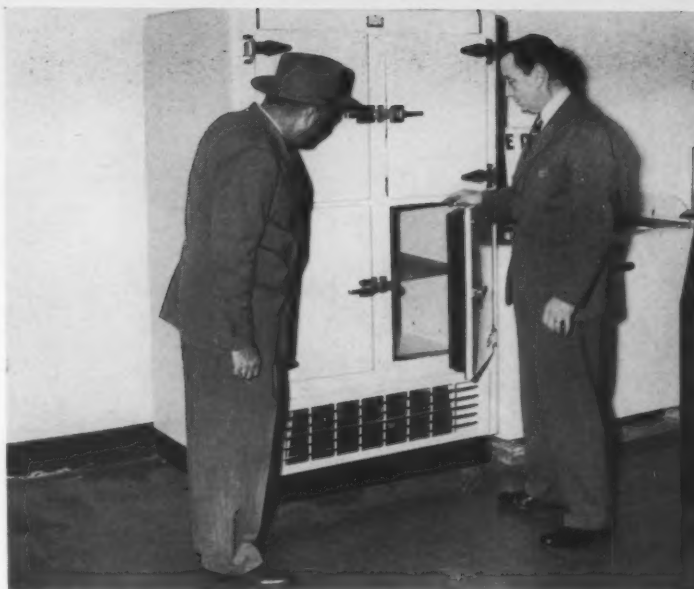
We have to buy—and *buy* is the correct word—the used box at the right figure. Operating on this low markup, we cannot afford to allow more than \$50 in trade for a box we will eventually sell for \$300 or more.

Why is this so?

We go back again to the \$200 that was agreed would be a satisfactory profit on a box that cost us \$650. After we have allowed \$50 for the trade-in, we have reduced our "take" to \$150. Right?

e sold at a profit!

THIS box was accepted in trade for \$50 on the sale of a new piece of equipment which Dealer McFarland, as a result of competitive pressure, had sold for a price which allowed him \$50 less than his usual profit. On top of this \$100, the trade-in box required an additional expenditure of \$40 in labor and materials to restore it to "like new" appearance, plus another \$50 to cover installation and warranty. This brought the dealer's total investment in the box to \$190. It sold off the floor for \$420, a difference which made it possible for the dealer to recover his full profit on the sale of the new equipment, pay all reconditioning and resale costs on the trade-in, and make a handsome profit on the trade-in sale besides.



McFarland (right) shows a used equipment prospect a newly reconditioned trade-in.

• • *by J. P. McFarland, Austin, Texas*

The trade-in goes in stock and is inventoried at \$50. "As is" that box inventoried at \$50 actually isn't worth a quarter. It can not be sold "as is".

To make that box saleable, we have to maintain a repair department. This means material and labor costs plus a percentage of rent charged against this operation.

But, if we only have \$50 tied up originally in the box, we can make some money on the trade-in.

Before we can sell that box, however, we have additional expense.

First, the enamel has to be removed down to the bare metal. New enamel must be applied in sufficient coats to give the old box a "new box" appearance. The old hardware must be replaced with new, or the old replated to look like new. The interior must be thoroughly cleaned and refinished.

If we bought the box for \$50, and it cost us \$40 to refinish it, we have a total of \$90 tied up in the box. But wait a minute! We have another \$50 to add for installation and the 30-day free service. This sums up to an investment of \$140 we actually have in the trade-in box.

That re-conditioned box however, will move right off the floor at anywhere between \$325 and \$425. So it be readily seen that buying used boxes "right" and re-finishing them to like-new appearance can be made to pay off for the dealer.

Recently, we took in a pantry box. It was in no rougher shape than usual. Because we were exceptionally busy at the time, we simply washed it up and set it on the floor priced at \$240.

It wouldn't sell. Customers looked all around it, and never gave us a nibble. When he caught up with our work, we refinished the box at a cost of \$40, and within three weeks it sold for \$425.

We repeat, trade-ins pose no problem when they are handled in a business-like manner.

When a dealer buys a used box he must remember the original price it sold for when new. He can not buy it on the basis of present-day prices. It is true that new boxes have advanced in price, but improvements have been added and incorporated in the meanwhile.

In selling, on the other hand, these points can be disregarded. The used box customer is aware he is buying a used box. He is governed not by his knowledge but by his pocketbook.

He knows—or thinks—he can't afford a new box, and has sold himself that a used box in good condition will get him by. The used box buyer will compare the difference between the cost of a used box and the current price he would have to pay for a new box.

Under the present conditions, if a dealer cannot make a substantial profit on trade-ins, he is making the wrong mental approach to the situation.



YOUR LINE for PROFITS...

from one of America's oldest and largest
refrigerator manufacturers



Attention: Dealers and Salesmen:

Here's a lifetime opportunity for aggressive organizations (and men) who will really work. Unlimited income. No investment necessary. Complete line with national acceptance. Friedrich has been the top quality standard since 1883. Strong national advertising. Full factory cooperation and training. A few top territories (and salesmen openings) are available. Write at once for full particulars.

NO OTHER Refrigerator has so many exclusive, quality features:

EXCLUSIVE Floating Air Conditioning

EXCLUSIVE Coolite Lighting

EXCLUSIVE Speed-Line Styling

EXCLUSIVE Aluminum Inner-lining

Thermopane Glass

Porcelain-on-Steel Surfaces

Sheet-Cork Insulation



REG. U. S. PAT. OFF.

Write direct to

ED FRIEDRICH Sales Corporation
San Antonio, Texas

Circle No. 34 on Reader Service Card for more information

JULY, 1951 • COMMERCIAL REFRIGERATION

NEWS OF THE INDUSTRY

WOOTTON IS CHIEF OF NPA SECTION

Appointment of A. Gordon Wootton as chief of the Commercial and Industrial Refrigeration and Air Conditioning Section, General Services Branch,



Gordon Wootton

Machinery Division, National Production Authority, has been announced.

Wootton served in a similar capacity with the War Production Board during World War II. Prior to joining WPB in July, 1942, he had been associated with Seeger Refrigerator Co. since 1928. He left WPB in 1945 to rejoin Seeger as manager of the southeastern territory, and later was with Warren Co. in this same area.

INDIANA RSES WILL MEET IN FT. WAYNE

Fourth annual convention of the Hoosier State association of Refrigeration Service Engineers Society will be held at Fort Wayne, Ind., on Oct. 5 to 7. Meetings will be held in the Van Orman hotel.

All refrigeration service men in Indiana, as well as those from surrounding states, are invited to attend the meeting. A varied educational and social program is being planned for the event.

NOVEMBER SHOW DEFINITELY ON

The 7th All-Industry Refrigeration and Air Conditioning Exposition, scheduled for the Navy Pier, Chicago, Nov. 5 to 8, will definitely be held, it was emphasized by Refrigeration Equipment Manufacturers Association.

Space already sold for the show, it was said, equals that of the last All-Industry Show in Atlantic City in 1949. Nearly 50,000 sq. ft. of exhibit space had been purchased by 165 exhibitors as of May 1, REMA reported. However, plenty of exhibit space is still available.

Floor plan and full information, including list of exhibitors and space available, can be obtained by writing to George E. Mills, Show Director, 1346 Connecticut Ave., Washington 6, D. C.

FEDDERS CHANGES DIVISION NAME

With the addition of a line of water coolers and a portable all-electric dehumidifier to its line of heating and refrigeration equipment, Fedders-Quigan Corp. has changed the name of its sales section from Unit Air Conditioner Div. to Refrigeration Appliances Div., A. J. DeFino, general manager, has announced.

Frank A. Mitchell remains as sales manager, but his headquarters have been removed from 1280 Niagara St. to 57 Tonawanda Ave.

ALTERS NAME

Koch Supply Co., Kansas City, Mo., producer of equipment and supplies for all branches of the meat industry, has announced that hereafter the firm will officially be known simply as Koch Supplies.

WILSON BECOMES TYLER DIVISION

The acquisition of the operating business of Wilson Refrigeration, Inc., of Smyrna, Del., has been announced here today by Tyler Fixture Corp., manufacturers of commercial



John Wilson, Jr.

refrigerators and farm and home freezers.

It was explained that Wilson Refrigeration, Inc., will be operated as a division of Tyler Fixture Corp. and that John Wilson, Jr., founder and president of the Smyrna, Del., company, will remain as the general manager of the organization which he founded.

The acquisition of this business by the Tyler Fixture Corp. brings to a total of four the number of operating units in the Tyler organization. Besides their main plant and general offices at Niles, Mich., Tyler currently is operating a manufacturing unit in Waxahachie, Tex., and a wholly owned subsidiary, the Harder Refrigerator Corp., in Cobleskill, N. Y.

U.S. AIR CO. LEASES ADDITIONAL SPACE

In a move necessitated by expanding operations, the United States Air Conditioning Corp., has leased approximately 40,000 sq. feet of additional industrial space in the Twin Cities.

THREE WEST COAST EXECS JOIN WARREN



G. R. Lindahl, Jr.

Albert Rebel

G. W. Stephens

The Warren Co., Atlanta commercial refrigerator manufacturer, has opened Western Divisional and Export offices in Los Angeles under the management of Albert Rebel, for 20 years manager of the International Division of Super-Cold Corp., and George R. Lindahl, Jr., formerly vice president in charge of sales for Super-Cold.

Lindahl, a son of one of the founders of Super-Cold,

and Rebel have worked together for over 17 years in both export and domestic sales.

Glendon W. Stephens, formerly assistant general sales manager of Super-Cold, has joined the newly-opened Warren western divisional offices as western regional manager. Stephens has been associated with Warren since shortly after the company introduced its equipment to the west coast some years ago.

AIR CONDITIONING FILTER REPLACEMENT NOW IS BIG BUSINESS!



AIR FILTERS

—a "Fiberglas" product

IMMEDIATE DELIVERY!

"Made to order"
sizes for
air conditioning
units and window
ventilators, our
specialty.

Fill out coupon below and send today for free
catalogue on "Air Filter Sizes for Air Condition-
ing Units."

HIMELBLAU ASSOCIATES, INC.

5401 W. Harrison St.

Chicago 44, Illinois

COMPANY NAME _____

ATTENTION OF _____

ADDRESS _____

CITY _____ STATE _____

Get Low Cost Water Cooling

WITH THE NEW McINTYRE Type "CT" Induced Draft Cooling Towers



**EXCLUSIVE DISTRIBUTOR
AND MANUFACTURER'S
AGENT TERRITORIES OPEN
IN SOME AREAS.**

Let these efficient Cooling Towers help you satisfy customers on jobs where water saving is necessary or cooling water disposal is a problem.

Built in a range of sizes from 3 to 100 tons, for indoor or outdoor mounting, McIntyre Cooling Towers are fully guaranteed for quality and performance.

Special construction eliminates angle-iron frames, assuring a leak-proof, rust-proof unit for longer life, higher efficiency.

McIntyre manufactures a complete line of Blast Coils, Evaporative Condensers, Air Conditioning Units and Commercial Freeze Cabinets.

*Write for the McIntyre
"CT" Bulletin*

McINTYRE ENGINEERING CO.

3221 Twentieth Street

San Francisco 10, Calif.

Circle No. 36 on Reader Service Card for more information

48

ORDER M-61 LIFTS INDUSTRY RANKING

Industrial refrigeration and air conditioning equipment has achieved recognition alongside of production equipment and machine tools as a major contributor to the nation's defense production effort.

This recognition was recognized in the issuance of NPA Order M-61, which became effective May 14. Order M-61 provides a procedure whereby manufacturers of refrigeration and air conditioning equipment (except packaged room air conditioners), condensing units, compressors, and compressor units are authorized to use a DO-75 priority rating to obtain necessary materials and parts containing iron, steel, copper and aluminum.

The order grants this procedure to makers of production machinery and machine tools.

It is understood the order will not apply to any insulated enclosures (cabinets) of any kind.

Under terms of Order M-61, manufacturers can obtain 10% more iron and steel products, 5% more copper products, and an equal number of aluminum products as they obtained on a monthly average during the first quarter of this year. The purpose of the order is to permit increased production of the specified items of equipment during the third quarter or until

the Controlled Materials Plan becomes effective for these items.

By use of the DO-75 rating, manufacturers should be able to obtain the necessary materials and parts to produce these items during the third quarter in quantities sufficient to meet current and anticipated demands. NPA said it would help eligible purchasers of rated materials to find sources of supplies.

Order M-61 specifies that manufacturers must use this rating for all such materials and parts obtained after May 17 except for orders already accepted by suppliers. The manufacturer may also use it to replace such materials and parts taken from his inventory, as long as he does not exceed NPA inventory restrictions.

In cases where production of any item during any month of the third quarter is confined exclusively to the filling of rated orders, the procurement limitation may be exceeded to fill such orders. In cases where the procurement limitation will delay or prevent the filling of rated orders, the producer can request an adjustment or an exception to the limitation.

In computing the amount of materials and parts procured for production during any month, the quantities taken from inventory and obtained in any manner must be included.

HIMELBLAU FIRM IN LARGER SPACE

Himelblau Associates, Inc., has recently moved to larger offices and warehouse space at 5401 W. Harrison St., Chicago. The company reports that the move was necessitated by increased business. Himelblau is a distributor of air filters and other items in the midwest area.

CONCOR TO HANDLE EXPORT FOR BOWSER

Appointment of Concor International Corp., Pasaic, N. J., as exclusive export representatives for the Technical Refrigeration Div. of Bowser, Inc., Terryville, Conn., has been announced by Thomas J. Lopiccolo, vice president of the division.

Alexander G. Lensen is president of Concor Inter-

national Corp. As a manufacturer and distributor of standard equipment, and as engineer and designer of special equipment, Concor covers the entire line in air conditioning, refrigeration and ice making equipment.

CARRIER DEFENSE ORDERS GROWING

In terms of square feet of productive space, facilities of Carrier Corp. are now nearly double those available during World War II, president Cloud Wampler declared recently in a statement accompanying the company's annual report for fiscal 1950.

He said that the company now has some \$5 million of defense orders on its books, and has additional commitments covering more than \$20 million of special government work.

BORDEN MEN GET FREEZER PEP TALK



SALES CAMPAIGN on Taylor ice cream and custard freezers was launched recently by A. E. Borden Co., of Boston, distributor of Tekni-Craft in the New England area, with a large dealer meeting. In this scene during the sales meeting, Ted Rice, of Rice Refrigeration, Concord, N. H., looks on as Larry Ounsworth, Tekni-Craft representative, draws off a flavorful frozen custard from the new Model 77 fully automatic and continuous freezer. Representing the distributor at the meeting were Chet Borden and H. Hyland, Borden's ice cream and custard freezer sales specialist.

LEAD-TIME FOR FREONS IS SET

Three Freon refrigerants—F-11, F-12 and F-22—and methylene chloride (Carrene) have been added to NPA Order M-32, and producers are authorized to refuse rated orders if they are not received within a specified period before the first of the month in which delivery is requested.

In the case of the Freon refrigerants, a lead-time of 15 days is required as far as the producer is concerned. For methylene chloride, a lead-time of 15 days is required for the producer, and 20 days for the distributor. No ceiling insofar as rated orders are concerned has been applied to any of the refrigerants mentioned in the current amendment to M-32.

HANSON HEADS CABINET MFRS.

B. W. Hanson, president of Schaefer, Inc., Minneapolis, has been elected to head the trade association activities of the ice cream cabinet manufacturing industry, succeeding T. E. Hoye of Savage Arms Corp., Utica, N. Y. This action was taken at the recent meeting of the Ice Cream Cabinet Section of the Air Conditioning and Refrigerating Machinery Association. Elected vice chairman of the section was

E. R. Wiegman of Anheuser-Busch, Inc., St. Louis. Hanson and Wiegman will serve as the group's officers until May, 1952.

This trade association of ice cream cabinet manufacturers has as its principal objective the assisting of its customers in the merchandising of ice cream.

B & G READIES NEW TEST LAB

Bell & Gossett Co., Morton Grove, Ill., has completed a new research laboratory adjacent to its main plant and equipment is now being installed, according to R. E. Moore, vice president. The new \$250,000 laboratory consolidates B & G's present research and development departments, and will be administered by Lawrence J. Smith, director of research. Including mezzanine space for library, storage and laboratory expansion, the 74 x 162 foot building has space exceeding 18,000 sq. ft.

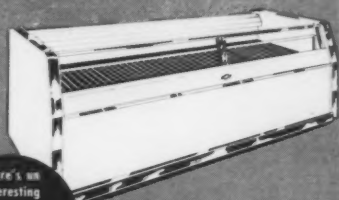
USAIRCO NAMES EUROPEAN REPS

United States Air Conditioning Corp. has recently appointed representatives in Greece and Italy, as follows:

Creon Kyriakidis, Athens, Greece, and Azlenda Reppresentanze Tecniche Industriale, Bologna, Italy.

Circle No. 37 on Reader Service Card for more information

Serving America's Finest Food Stores!



There's an interesting story for dealers in "Bally MEANS BIG BUSINESS". Copies available.

OPEN STYLE Single Shelf Case
Front and Rear Loading Models
Canopy Available

**...ONE OF 62 DIFFERENT
BALLY MODELS and SIZES**

Bally

REFRIGERATED DISPLAY CASES
Bally Case and Cooler Co., Bally, Pa.



INSTALL COMPLETE

Now you can figure complete jobs with Hirsh Pre-Bilt Shelving Equipment! The Hirsh Plan enables you to sell wall and gondola units that the merchant can assemble himself.

FOOD STORES

**EASY TO INSTALL
FULLY ADJUSTABLE**

**HEAVY DUTY CONSTRUCTION
PROFITABLE FOR YOU**



Write now for complete information—no obligation!

Circle No. 38 on Reader Service Card for more information



S. A. HIRSH MFG. COMPANY
8051 CENTRAL PARK AV., SKOKIE, ILL.
Chicago phone: Cornelia 7-4140
*CR

Name _____
Address _____
City _____ Zone _____ State _____

NEW!

SELF-MEASURING

SPILL-PROOF

FLO

DISPENSER!

Accurate

Easy to Use



NOW—the new graduated FLO bottle enables you to add the exact amount of this liquid dehydrant to the system without waste or spilling.

Accurate graduations printed in reverse position on the side of the plastic, break-proof container tell at a glance how much you add. A slight pressure on the side of the bottle starts the discharge instantly into the system. Release of pressure stops the flow at the correct mark. It's simple. It's easy. It's accurate.

FLO destroys moisture upon contact as it travels through the system. Keeps the refrigerant dry and at top efficiency.

Fill it!—Don't Spill it!

AT YOUR JOBBER

ALLIN MANUFACTURING CO.

1153 West Grand Avenue, Chicago 22, Illinois

THE MACK

OIL

SENTRY



Refrigeration Compressor Oil Charging Pump

Here's a faster, safer way to charge compressors with a measured amount of oil, without danger of spillage. Calibrated pump delivers 1 to 3 ounces per stroke. Crankcase can be filled from any angle. Plunger on pump seals top of can in *down* position. Sturdy 4-foot neoprene hose is reinforced at both ends.

List To The Trade **\$6.95**

MANUFACTURED BY
MACK PRODUCTS CO.
11 Fremont St., Winthrop, Mass.

The No. 1 Refrigeration Service Tool

- Guards Against Lost Time
- No Dirt-Moisture Problem
- Guards Against Spillage
- Measures Oil Accurately
- Self-Cleaning Nozzle
- Compact as a Gun

SEE YOUR WHOLESALER
National Distributor
A. E. BORDEN CO., INC.

176 Brookline Ave., Boston 15, Mass.

Circle No. 82 on Reader Service Card for more information

NEW SEALED REPAIR SERVICE IS OFFERED

A money-saving service offer has been introduced by Sealed Unit Parts Co., Inc., to repair external terminal leaks from the outside on most refrigeration sealed units.

According to Sidney Weiner, secretary of the firm, the new method takes three minutes to repair each unit, at a charge of only \$1.25 per unit. Weiner said the method has been developed to correct any original defect, and is guaranteed leak-proof for the life of the unit.

The new method applies to Part #1157 on Kelvinator, Norge, Crosley (1942 and later) and to part #11515 on Tecumseh, Philco, Stewart-Warner, Gale, Murphy, Schaefer, and Westinghouse (all models).

EVERFROST FACTORY DAMAGED BY FLAMES

Flames of undetermined origin recently destroyed a portion of the factory of Anderson & Wagner, Los Angeles, manufacturers of Everfrost soda fountains, luncheonette and drink dispensing equipment. Evidently starting in the center of the south wing, the flames rapidly spread through this unit of the plant with the exception of the offices, destroying equipment and a portion of the finished fountain inventory. No interruption in scheduled deliveries of most products is anticipated.

LOUDON CANCELS COLD-TROL SET-UP

Roy Loudon, president of Loudon Mfg. Co., recently announced that his firm has cancelled the Cold-Trol Co. contract for distributorship of the Loudon automatic ice cuber effective April 1. The Cold-Trol Co. had an exclusive franchise for the distribution of the Loudon ice cuber for all states east of the Mississippi.

All orders for the Loudon ice cuber from the East will now be handled through Loudon Mfg. Co. headquarters in Minneapolis.

Loudon has recently appointed the following factory agents to handle the distribution of the automatic ice cuber in part of

the territory formerly served by Cold-Trol: Douglas Strebler, serving southern New York and northern Pennsylvania; Eric Thormann, serving the New England states; S. R. Hill, serving Washington, D.C., Virginia, North and South Carolina; Charles House, serving Mississippi, Georgia, Alabama, and Louisiana.

KOLD-HOLD MEN HOLD CONFERENCE

The first national sales conference of the new Platecoil Div. of Kold-Hold Mfg. Co. was held recently at the Hotel Olds, Lansing, Mich. Thirty-five sales representatives attended from 18 sales offices located in principal cities east of the Rocky mountains.

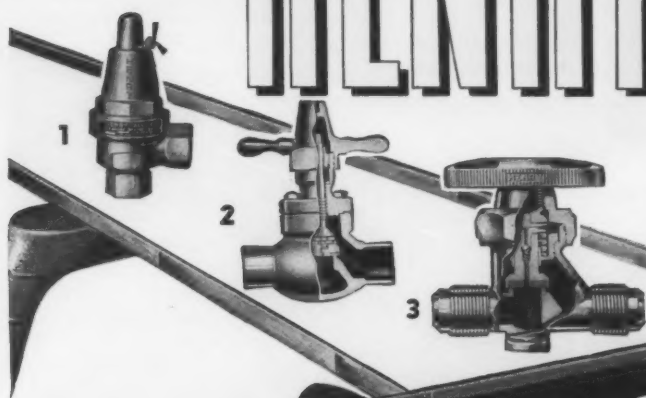
The conference was keynoted by James R. Tranter, president of the company, who pointed out that the use of Platecoils in tank heating and cooling has increased these operations as much as 50% to help speed war production.

Other sessions were conducted by Jack R. Tepfer, general sales manager, and C. P. Yoder, sales manager of the Platecoil Div. The representatives themselves discussed applications in "workshop" sessions, and went on a tour of the plant where they learned the details of Platecoil production.

Representatives attending were: G. S. Ewing, W. H. Eckhard and W. K. Duff, New York; William Horblit, Denver; Walter C. Edge, M. P. Edge, George M. Phillips and John J. Carroll, Philadelphia; H. R. Houghton, Baltimore; S. F. Brooks Jr., Indianapolis; Hubert Glatte and Alfred F. Macklin, Cleveland; John S. Bower, Cincinnati; T. F. Hilgenberg, Milwaukee; Walter G. Barstow and Arnold J. Nordenson, Minneapolis; W. P. Nevins, E. J. Nevins, F. A. Powers, F. W. Winkler and F. A. Sasso, Chicago; Russell Patton and John Hallowell, St. Louis; Wm. B. Parsons Jr., and Frank L. Bridges, Boston; Richard B. Hogue, Buffalo; Carl E. Johnson, Atlanta; A. W. Anderson, Pittsburg; Jos. Cantwell, Albany; Jay Kordest and J. W. Peterson, Detroit; and J. A. MacDonald, Canada.

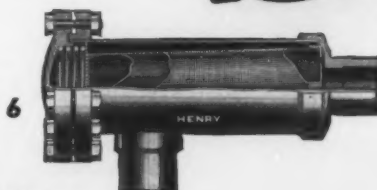
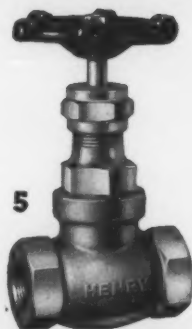
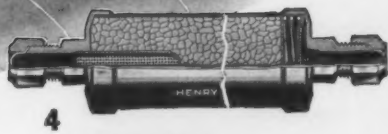
HENRY

REALLY GIVES YOU
SOMETHING EXTRA!



ADVANCED ENGINEERING

- 1 RELIEF VALVES** diaphragm construction, positive controlled cushion reseating with relief capacity that meets latest code requirements.
- 2 WING CAP VALVES** greater flow, bolted bonnet and self-aligning stem disc.
- 3 PACKLESS VALVES** still the only Balanced-Action valve on the market—no extra cost.
- 4 DRIERS** forged brass end caps with integral fittings, natural finish, Abso-Dry pressure sealed, dispersion tube and extra capacity.
- 5 AMMONIA VALVES** compact and strong, self-aligning stem disc.
- 6 STRAINERS** forged brass end caps with integral fittings, reinforced screen, large filtering area, distortion-proof clean-out flange.



Sold by
Leading Wholesalers

HENRY VALVE CO.

Valves • Driers • Strainers • Control Devices and Accessories
for Refrigeration, Air Conditioning and Industrial Applications

MELROSE PARK, ILL. (CHICAGO SUBURB)
CABLE: HEVALCO, MELROSE PARK, ILLINOIS



ABOUT PEOPLE . . .

Continued from page 41

York City, will represent Fogel in the greater New York area. Herbert and Richard Kahn are associated with their father in this operation.

Carl W. Moeller has been appointed assistant to the manager of engineering (J. J. Clarkson) of General Electric's fractional horsepower motor divisions at Fort Wayne, Ind.

Clinton Millman has been appointed to the newly created post of manager of operations of Baker Refrigeration Corp., South Windham, Me. In his new capacity, Millman will have charge of all manufacturing functions for all of the company's plants. Millman, who has been with Baker for about three months in a



consulting capacity, was from 1937 to 1950 west coast manager, general sales manager, vice president and general manager of Ranney Refrigerator Co., Greenville, Mich. Baker war products, augmenting its expanded refrigeration production, include precision parts for aircraft, helicopters and guided missiles.

Robert L. Day has been appointed factory sales engineer for General Controls Co., with headquarters at the company's plant in Glendale, Calif. Day formerly was senior sales engineer in the company's San Francisco factory branch office. In his new job he will assist branch office personnel in handling technical inquiries from customers concerning heating, refrigeration and industrial controls made by the company.



Thomas H. Hart has been named representative for Sealed Unit Parts Co. in the southeastern states, with headquarters in Atlanta. George J. Randolph has been appointed representative for the company in California, Arizona and Nevada.

David E. Feinberg has been appointed a vice president of the United States Air Conditioning Corp., Minneapolis. Feinberg has been since 1949 the manager of the company's refrigeration division, which is responsible for engineering, manufacture and sales of refrigeration products, and is also serving as coordinator of usAIRco's defense production work.



B. R. McClure has been appointed assistant to the manager of sales of General Electric Co.'s Fractional Horsepower Motor Divisions at Fort Wayne, Ind. D. C. Hanson has been made manager of the Refrigeration Equipment Sales Division and



"Marsh speaks our customers' language"

A big distributor doing a big job in the refrigeration field is F. H. Langsenkamp Co. Five busy mid-western cities are served by as many Langsenkamp houses—four in Indiana at Fort Wayne, South Bend, Evansville and Indianapolis and a fifth at Louisville, Kentucky. The photo above, snapped in the Indianapolis house, pictures F. S. Langsenkamp Jr. (center) and Harold Gray, Indianapolis store manager, (right) watching the snappy response of a Marsh "Serviceman" thermometer.

The man at the left holding the bulb is Les Greulich of Marsh Instrument Co., and it's likely his temperature rose slightly above normal at the pleasant things the Langsenkamp management had to say about Marsh equipment.

Yes, the Langsenkamp Co. has shown its confidence in Marsh equipment by carrying a full line of Marsh gauges, thermometers, testing instruments, and the full Marsh-Electrimatic line of automatic control and regulating valves. "It's the kind of equipment we like to handle," said Mr. Langsenkamp, "dependable, uniform, accurate, and solidly built to stay accurate. It's the kind of equipment that speaks our customers' language."

Throughout the U.S. you find progressive jobbers like Langsenkamp Co. who handle the Marsh line because it speaks the refrigeration man's language — the language of on-the-job dependability — convincingly plain.

See your jobber

MARSH INSTRUMENT CO.

Sales affiliate of Jas. P. Marsh Corporation
Dept. P, Skokie, Ill.

Type WP Marsh Electric Water Regulator — one of many in the line which also includes solenoid valves in a full range of types and sizes.



A team of thoroughbreds for the man who wants the ultimate in testing gauges. Other refrigeration gauges for all purposes.



The Serviceman that Mr. Langsenkamp is holding. It's a must in every testing kit.

MARSH

Refrigeration Instruments

Circle No. 41 on Reader Service Card for more information

K. R. Whearley has been placed in charge of the Distribution, Parts, and Service Sales Section.

W. R. Eby has been named manager of the Pacific District of York



W. R. Eby



T. A. Marshall



D. D. Stone

Corp., succeeding Rodney F. Lauer, who was recently promoted to vice president in charge of engineering and research for the company. With York since 1930, Eby formerly had been industrial

sales manager with headquarters in Los Angeles. **Thomas A. Marshall**, formerly manager of York's San Francisco branch office, has been named to succeed Eby as industrial sales manager for the Pacific District, and **Dow D. Stone**, formerly a sales engineer, has been promoted to branch manager at San Francisco.

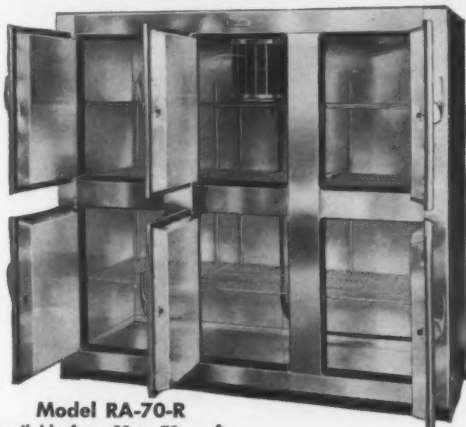
Appointment of **Frank C. Hackett** as Washington, D.C., representative in charge of all government contracts has been announced by Bell & Gossett Co. While in Washington, Hackett will continue as Bell & Gossett's sales promotion manager, a post he has held for six years.

John E. McDonald has been appointed assistant manager, air handling engineering, for the Sturtevant Div. of Westinghouse Electric Corp. He has been with Sturtevant since his graduation from M.I.T. in 1935.

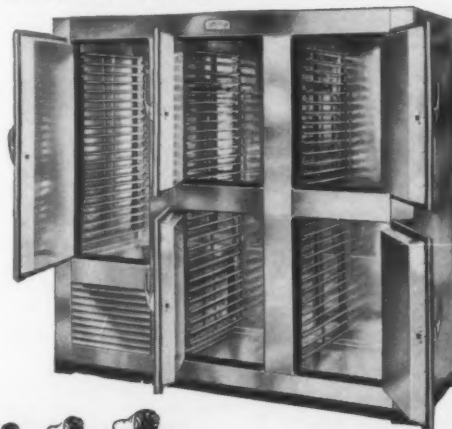
William J. Larkin has recently been appointed installation and service manager of Florida Weathermakers, Inc., Jacksonville, Fla. Larkin, a factory-trained man with 20 years' experience, heads a staff of 25.

STA-KOLD Stainless Steel Refrigeration Your Choice for EVERY PURPOSE


STA-KOLD builds value into every unit. For those who want streamlined smartness, dependable and economical operation at low-cost, STA-KOLD is the answer.

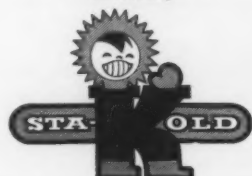


Model RA-70-R
Available from 20 to 70 cu. ft.
Remote and Self-Contained



Model RD-65-S
Dough Retarder or Salad Refrigerator
Available from 42 to 70 cu. ft.
Remote and Self-Contained


Pioneers of Stainless Steel Refrigerated Cases
For complete information write for catalog



STA-KOLD PRODUCTS

Division of
VICTORY METAL MANUFACTURING CORP.

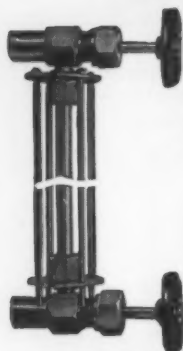
1300 SOUTH FRONT ST.
PHILADELPHIA 47, PA.

DISTRIBUTORS IN ALL PRINCIPAL CITIES

Circle No. 42 on Reader Service Card for more information



Provide maximum service
under toughest operating
conditions.



**ALL-STEEL
GAUGE SETS**
All-Steel Construction.
Automatic
shut-off of liquid in
case of glass break-
age. Composition
packing rings give
long life, no-leak
seal.



RELIEF VALVES
For Ammonia and
Freon. One piece
body design—rust-
proof finish. Inter-
nal construction—
stainless steel—will
not corrode. Posi-
tive relief action.
Pressures from 75
to 400 lbs.

See Your Jobber—or Write Us for Prices.

CYRUS SHANK COMPANY
631 W. Jackson Blvd., Chicago 6, Ill.

WHEN YOU NEED
PARTS FOR

**COLDSPOT
Compressors**

Specify

DELAVAN

Save time and money. Order
all parts for Coldspot
Compressors from Delavan.

Write For
Catalog 50B

DELAVAN
MANUFACTURING CO.
1009 SIXTH AVENUE
DES MOINES 13, IOWA

Circle No. 44 on Reader Service Card

54

USEFUL

BULLETINS • BOOKLETS • CATALOGS

The publications listed below are available to readers without charge. Simply circle on the postcard in this issue the key numbers of the items you wish to receive. Your requests will be forwarded directly to the companies concerned.

Case Study Folder . . . A 4-page folder available from Sweden Freezer Mfg. Co. which presents a "case study" of the methods used by the Triple XXX drive-in fountains in the Pacific Northwest. Bulletin shows how fountain operators make effective use of fountain freezers, automatic milk shake machines, for both service and quality control.

Circle No. 100 on Reader Service Card

Air Purification . . . A bulletin sheet issued by Vita Aire Process Co. describing its "Vita-Aire" air purification equipment, especially designed for use in cheese plants and creameries as well as in other locations where air-borne impurities might damage product quality.

Circle No. 101 on Reader Service Card

Brine Maintenance . . . A handy chart telling how much flake calcium chloride to use when making a new brine or strengthening an old brine is featured in a 4-page folder (RB-1) published by Calcium Chloride Association. Also included is information on testing brine strength, ammonia leakage, pH testing, corrosion inhibitors, and correcting for acidity and alkalinity.

Circle No. 102 on Reader Service Card

Air Filters . . . A revised 16-page catalog (DSI-5) of air filter sizes for air conditioning units has been announced by Owens-Corning Fiberglas Corp. Included in this booklet are sizes and numbers of filters required for air conditioners manufactured by 31 companies.

Circle No. 103 on Reader Service Card

Cooling Towers . . . A new bulletin (401-A) on cooling towers from 3 to 11 tons has been released by Acme Industries, Inc. This bulletin describes details of such component parts of the towers as housing, fan, and filling eliminator, and also lists nominal capacities and general dimensions. Ratings are given at 78 F wet bulb for both 7½ and 10-degree water range. A table giving suggested maximum number of units per tower is included.

Circle No. 104 on Reader Service Card

Cooling Equipment . . . This complete new catalog issued by McIntyre Engineering Co. covers cooling towers, evaporative condensers, blast coils, air handling equipment, and multi-zone units. Capacities (3 to 100 tons), sizing charts, and prices are included.

Circle No. 105 on Reader Service Card

Cold Plate Data . . . New laboratory data on the use of "Platecoils" as a medium of heat exchange now is available in this new technical manual published by the Platecoil Div., Kold-Hold Mfg. Co. It provides the engineer with the principal data required in the solution of heat transfer problems. It simplifies selection and application of heat transfer equipment by supplying charts and formulas to aid in basic calculations.

Circle No. 106 on Reader Service Card

Insulation . . . A revised and expanded data book featuring a fully detailed chart of the properties of "Rubatex" cellular rubber insulation now is available from Rubatex Div., Great American Industries, Inc. A concise explanation of the advantages of this insulation in various fields and photographs of typical applications are included. Various steps in the manufacturing of Rubatex also are shown.

Circle No. 107 on Reader Service Card

Air Conditioning Aids . . . "Practical Pointers on Air Conditioning" is the title of a 16-page booklet for both layman and expert covering all phases of air treatment and air handling. Published by United States Air Conditioning Corp., this liberally illustrated booklet describes the properties of air, the problems of its control, and the application of diversified types of equipment to solve these problems.

Circle No. 108 on Reader Service Card

Cooling Towers . . . A cooling tower selection chart providing a quick and simple method of selecting the proper size tower for various operating conditions is a feature of the new cooling tower bulletin (No. 18PT) issued by Baltimore Aircoil Co., Inc. Specifications, and illustrations of the company's line "PT" of cooling towers also is included.

Circle No. 109 on Reader Service Card

Packaged Conditioners . . . If you're looking for some good sales arguments in favor of packaged air conditioning equipment, you'll want this colorful, profusely illustrated, 12-page bulletin (B-5158) describing the benefits of air conditioning in terms of the Westinghouse "Unitaire" line of conditioners. Available from Westinghouse Sturtevant Div.

Circle No. 110 on Reader Service Card

**BUY FROM YOUR
REFRIGERATION WHOLESALE**

"Kelvinator Units are Tops in my book!"

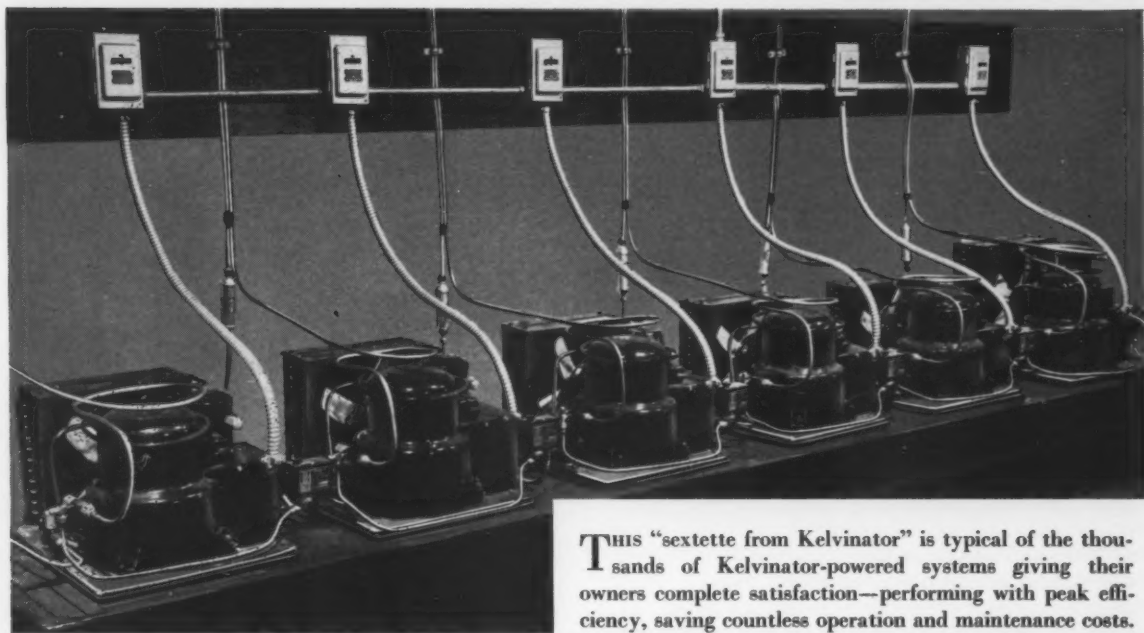
...says Al Larson, *Minneapolis, Minn.
Grocery Merchant*



"... thought you'd be interested to know that since this battery of six Kelvinator sealed units was installed two years ago I haven't spent *one cent* for service or maintenance. These units replaced a large water cooled unit which formerly operated all of my refrigerated equipment. I find that the cost of operation for all six Kelvinators amounts to considerably less than the cost of operation of the one large unit installed originally.

"Count on me as being an enthusiastic Kelvinator booster..." (signed)

al Larson



THIS "sextette from Kelvinator" is typical of the thousands of Kelvinator-powered systems giving their owners complete satisfaction—performing with peak efficiency, saving countless operation and maintenance costs. Sell Kelvinator—watch your unit sales build up on the sound foundation of customer satisfaction. Let Kelvinator pre-sell new customers for you—and keep them coming to your shop for more of the same!

See the complete range of unit sizes... and complete line of refrigeration parts and supplies, competitively priced... at your nearest Kelvinator Parts Depot. Write, phone, or stop in for helpful information on installation or service problems. Kelvinator, Division of Nash-Kelvinator Corporation, Detroit 32, Michigan.

PROFIT TODAY... BUILD FOR TOMORROW WITH

Kelvinator

THE NAME THAT SELLS... THE NAME THAT SATISFIES!



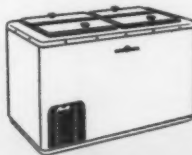
KELVINATOR
BEVERAGE COOLERS



KELVINATOR FROZEN
FOOD MERCHANDISERS



KELVINATOR
WATER COOLERS



KELVINATOR
ICE CREAM CABINETS



KELVINATOR
AIR DRIER

Circle No. 45 on Reader Service Card for more information

and AIR CONDITIONING • JULY, 1951

NEW

PRODUCTS

For further information on any of these products, simply circle on the postcard provided in this issue the key numbers of the items in which you are interested. Your requests will be forwarded directly to the companies concerned.

Liquid Indicator

Product: "E-Z-See" liquid indicator.

Manufacturer: Remco, Inc., Zelenople, Pa.

Features: Easy to see through. Positively leakproof. Perfectly safe. Easy to install. Gasket backed up by



spring so that seal does not depend upon resiliency of gasket material. Double port (ports on opposite side of body) admit plenty of light. Tubular high pressure glass protected from damage by unique slotting arrangement of rugged brass body. Sizes and types for all applications. Extended sweat connections to permit silver soldering without disassembling. Wrench grips are rugged 1-inch hex. Body extension tubes of larger units made of special alloy which is poor conductor of heat, so joints may be silver soldered to brass end fittings with negligible rise in temperature at gaskets.

Circle No. 130 on Reader Service Card

Self-Service Case

Product: "Openview OL11R" self-service display case.

Manufacturer: Ed Friedrich Sales Corp., San Antonio, Tex.



Features: Open style self-service case, with no superstructure, designed for easy loading from the rear. Particularly designed for use in front of cutting rooms or other locations where customer vision behind case is important. Double-duty model with storage compartment below. Available either as completely separate unit or with ends removed for continuous in-line installation. Refrigerated by patented controlled air system. Circle No. 131 on Reader Service Card

Aluminum Filters

Product: Smith lifetime aluminum filter.

Distributor: Himelblau Associates, Inc., Chicago, Ill.

Features: All aluminum contraction throughout. Completely rust-proof. Filter medium composed of aluminum sheets expanded to various densities to trap dust, soot, pollen, etc. Especially corrugated to prevent face loading. Economical, efficient, easy to clean simply by flushing with a hose and letting the dirt wash down the drain. Fine dust particles penetrate to the inner layers of the filtering element while lint, insects and similar material is trapped near the face of the filter. This results in maximum dust-holding capacity with minimum restriction to air flow.

Circle No. 132 on Reader Service Card

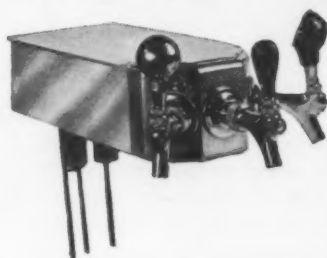
Beer Tapping Unit

Product: Perlick "Ceco" tapping unit that attaches to under side of bar and takes no floor space.

Manufacturer: Perlick Brass Co., Milwaukee, Wis.

Features: Consists exclusively of tapping head. Primarily designed for crowded bars where no room is available for cabinet type tapping station and where under-bar space is at a

premium. Measures only 18 inches long, 7 inches wide, and 5 inches deep. Connected to walk-in cooler or refrigeration compartment by means



of insulated housing containing two air ducts. Cold air is forced into the unit through the housing from the cooler and circulated constantly so that right temperature is maintained in the unit for proper beer dispensing. Contains two beer faucets, with one water faucet in the center, as standard equipment. Other units can be provided to supply beer, flavored drinks, or charged water in any combination desired.

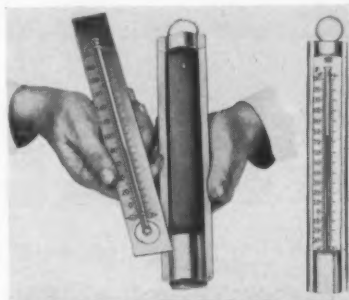
Circle No. 133 on Reader Service Card

Thermometer

Product: Model 8689 "Tag" thermometer.

Manufacturer: Tagliabue Instruments Div., Weston Electrical Instrument Corp., Newark, N. J.

Features: Corrosion-resistant stainless steel case permits use of this accurate all-purpose instrument



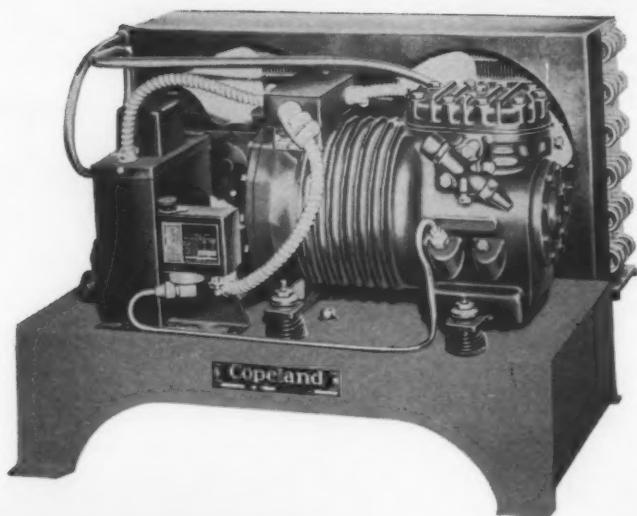
anywhere under any conditions, without usual problems of deterioration. Thermometer is removable from case for easy replacement or for interchanging with any of five different types which can be used with the single case. Types range from as low as -40 F to as high as 400 F. Functional design assures no bending or warping. Clear, easy readability. No

Copeland

DEPENDABLE *Electric* REFRIGERATION

the line for

Greater
Sales!



COPELAMETIC

THE ACCESSIBLE HERMETIC

AND

COPELAND
OPEN-TYPE UNITS

With open-type units and Copelametics in sizes of 1/6 H.P. through

7-1/2 H.P. Copeland broadens the range of your prospects . . . shortens the distance to the name on the dotted line.

National advertising to your market helps you cash in on Copeland's reputation. Copeland's recognized quality insures recommendations and repeat sales.

Get behind the product that's behind you all the way . . . the product that gives you a size for every refrigeration and air-conditioning need.

Display and sell the new, complete Copeland line.

COPELAND REFRIGERATION CORPORATION • SIDNEY, OHIO

Manufacturers of

REFRIGERATION UNITS (OPEN-TYPE AND COPELAMETIC), WATER COOLERS, REFRIGERATORS

Circle No. 46 on Reader Service Card for more information

and AIR CONDITIONING • JULY, 1951

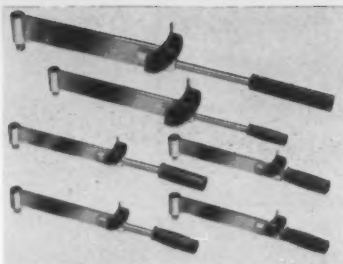
torque can be transmitted to the scale to disarrange the calibration.
Circle No. 134 on Reader Service Card

Torque Wrenches

Product: New FN series of torque wrenches for $\frac{3}{8}$ -inch, $\frac{1}{2}$ -inch, and $\frac{3}{4}$ -inch square drives.

Manufacturer: Bonney Forge & Tool Works, Allentown, Pa.

Features: Broad, pre-tested tension bar. Long, thin design provides easy access to tight spots. Handles are pivot-mounted to maintain a con-



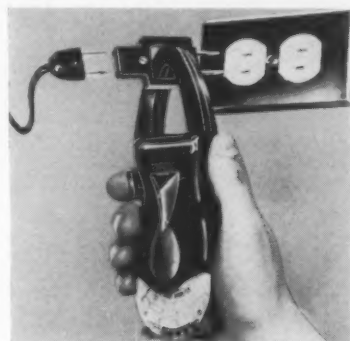
stant leverage radius. Easily read calibration scale available in foot-pound or foot-inch calibrations.
Circle No. 135 on Reader Service Card

Dual-Purpose Sensitizer

Product: Dual-purpose Model A-30 Sensitizer.

Manufacturer: Pyramid Instrument Corp., New York, N. Y.

Features: Combining in one instrument the service of the original 10x Sensitizer and the 1x Split Plug, Model A-30 can be changed from one to another by means of a two-position switch. Designed for easier and precise readings on small appliances and motors of $\frac{1}{4}$ -hp or less, this unit multiplies the sensitivity of the Amprobe 10 times. This accessory adds three low-current ranges to the Model A-6 Amprobe—0.1 amp, 0.25 amps, 0.5 amps. A shift of the two-position switch and the change is made to the 1x Split Plug which does not increase



the sensitivity but facilitates snap-on current readings of equipment having sealed double-conductor electric cord. When plugged in between the equipment being checked and the outlet it separates the conductors instantly without touching the wire.

Circle No. 136 on Reader Service Card

NEW

"Cross-Flo"

THE MOST EFFICIENT

Liquid-Line

DRIER-FILTER MADE



NEW

MOLDED REMCAL
 DRYING AGENT

REMCAL, the new super-strength molded Calcium Sulphate drying element, has increased moisture absorbing capacity and improved efficiency even at liquid line temperatures as high as 150° F and dew point temperatures down to as low as -60° F. It is molded directly into a perforated steel container, and thus has strength approaching reinforced concrete and steel to withstand even the severest shock and vibration. Powdering and dusting are completely eliminated. The element is completely dehydrated at a temperature of 425° F. to assure the highest degree of efficiency.

Carried in Stock by Leading Wholesalers
 Write for New Bulletin No. R-7



Flow is ACROSS the molded element—THROUGH the Cross-Flo openings and ACROSS the extra capacity, HIGHLY EFFICIENT FIBERGLAS Depth Filter.

Circle No. 47 on Reader Service Card for more information

West Coast Warehouse
 2015 South San Pedro
 Los Angeles, California

Export Department:
 Malabar, Armstrong, Benson,
 Ridgely, New Jersey



8-Ton Conditioner

Product: SU-81 8-ton self contained air conditioner.

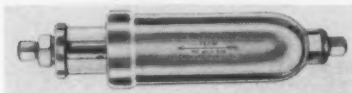
Manufacturer: Westinghouse Electric Corp., Sturtevant Div., Hyde Park, Boston, Mass.

Features: Designed for within-the-space conditioning of homes, factories, offices, and other commercial establishments. Year-around conditioning can be provided by addition of either steam or hot water coils and an outside air duct connection for ventilation. Factory-assembled package, including Freon-12 compressor, water-cooled condenser, direct expansion coil, and centrifugal fan. Easy to install, requires only water, drain and electrical connections. Rated at 96,000 Btu per hour with $7\frac{1}{2}$ -hp com-

pressor. Cabinet constructed of steel panels press-formed into attractive design. Exterior finished in semi-gloss, two-tone gray enamel. Welded steel frame supports all components. Circle No. 137 on Reader Service Card

Sight Drier

Product: Sight driers and sight gauge indicator designed to facilitate fastest, most accurate diagnosis of refrigeration troubles.



Manufacturer: Cee-Kleer Products, Inc., Cincinnati, Ohio.

Features: Truly a liquid indicator and not a by-pass. Magnification of stud in center of indicator, when liquid is in glass, easily seen at considerable distance. Design affords 360-degree visibility. Eliminates definite amount of guesswork. Diagnosis made easily and quickly. Shows excess oil in system at once. Saves time in field. Will not leak because they are sealed with fibrous asbestos gaskets. Gauge glass is stain-proof and etch-proof. Sight driers are 100% cleanable and refillable, using depth filter that will keep outlet side of drier free of pressure drop at all times.

Circle No. 138 on Reader Service Card

Dehumidifier

Product: All-electric, non-chemical cabinet type dehumidifier.

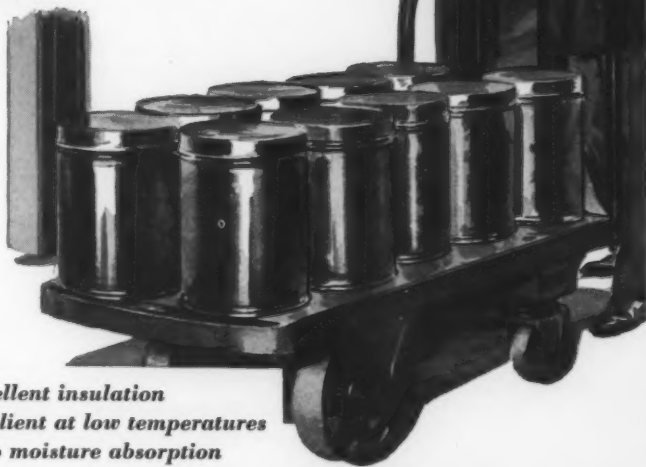
Manufacturer: Fedders-Quigan Corp., Buffalo, N. Y.

Features: Compact and portable,



RUBATEX GASKETS

**prevent
cold loss
around
freezer box
doors**



**Excellent insulation
Resilient at low temperatures
Zero moisture absorption**

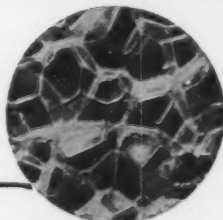
A combination of ideal characteristics makes RUBATEX Closed-Cell Rubber the most efficient material for gasketing refrigerator and cold storage room doors.

The dense closed cell structure of RUBATEX is permanently resilient and is unaffected by low temperatures. RUBATEX provides a tight seal, even over irregular surfaces, with a minimum of pressure. It has high insulating properties and cannot absorb moisture.

Try RUBATEX for your gasketing,

cushioning, or vibration damping application. It is made in soft, medium and firm forms and in natural rubber and synthetic stocks. Engineering advice and assistance is available. For further information write for Catalog RBS-12-49. Great American Industries, Inc., RUBATEX DIVISION, BEDFORD, VA.

Photo-micrograph shows how each cell of RUBATEX is completely sealed by a wall of rubber. The material cannot absorb moisture. It has high insulating values, resists oxidation and is rot and vermin proof.



RUBATEX[®] CLOSED CELL RUBBER

Circle No. 48 on Reader Service Card for more information

SWEET MUSIC FOR YOU



...THROUGH THE ALL-ROUND

VERSATILITY

of Easy-Flo and Sil-Fos

They join ferrous,
non-ferrous and
dissimilar metals

They make joints
fully as strong
as solid metal

They make ductile
joints that stand heavy
stresses and strains

They make joints
that are liquid
and air-tight

They make joints
that transfer
heat readily

They make joints
high in electrical
conductivity

They make
joints that
resist corrosion

They'll give you
any production
you require

They make neat
joints that need little
or no finishing

■ When it comes to getting jobs done—whether for domestic or defense production—EASY-FLO and SIL-FOS, the well-known low-temperature silver brazing alloys, are just about tops as industry's most versatile production "tools." What's more, they're "tools" any shop can use, from the little repair place on Main Street to the largest industrial plant in the country.

With just a brazing torch, for example, you can join copper and brass and iron pipe and tubing—fabricate all kinds of metal refrigeration parts—do all kinds of installation, maintenance and repair work on refrigerators and refrigerating equipment of all kinds.

If you want a dozen or 50 joints a day, you can get them with a single or double tipped torch. Heat by hand—or fix the torch to a bench . . . the speed of EASY-FLO and SIL-FOS brazing will surprise you.

If you need a million joints, you can get them by doing your EASY-FLO and SIL-FOS brazing with a conveyor furnace, a set-up of oxyacetylene or gas-air burners, or a "push button" induction unit. And get this—*your savings in time and labor, in every case, will quickly write off the equipment cost.*

WRITE FOR THESE FREE BULLETINS

BULLETIN NO. 20 gives the whole, remarkable story of EASY-FLO and SIL-FOS brazing as well as specific information on joint design and fast heating and production methods.

BULLETIN NO. 17 provides step-by-step instructions on how to braze fittings to pipe and tubing. Write for free copies today.



HANDY & HARMAN

82 FULTON STREET • NEW YORK 38, N. Y.

Bridgport, Conn. • Chicago, Ill. • Los Angeles, Cal. • Providence, R. I. • Toronto, Canada
Agents in Principal Cities

Circle No. 49 on Reader Service Card for more information

will plug into any electrical outlet. Equipped with handy removable container for disposal of water it collects. Carries 5-year warranty. Capable of removing 2 to 3 gallons of water from atmosphere every 24 hours. Designed for any application where excessive moisture has a damaging effect upon products or equipment.

Circle No. 139 on Reader Service Card

Bakery Freezer Line

Product: New "Bake-N-Freez" line of walk-in, reach-in, and table type freezers for bakers.

Manufacturer: C. Schmidt Co., Cincinnati, Ohio.

Features: Complete line of low-temperature units specifically de-



signed for bakery use. The walk-in (illustrated) is for the big production job. Designed so that bakery racks loaded with trays of baked goods can be wheeled right into the freezer for storage. Reach-in unit is equipped with tray slides. This model occupies less than 14 sq. ft. of floor space and is intended for use by bakers who do not have room for walk-in. Table chest is a combination work table and freezer. Top provides a large working surface with access to freezer provided through doors in side. Designed for baker who has room for neither walk-in or reach-in.

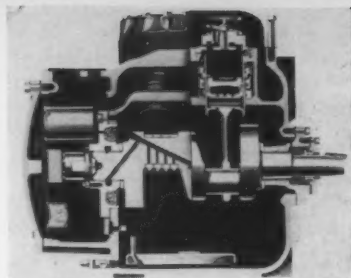
Circle No. 140 on Reader Service Card

Reciprocating Compressors

Product: New line of reciprocating compressors in 10, 15, 20, 25, 40 and 50-ton capacities for comfort and process air conditioning applications. Complete condensing units also made in each size.

Manufacturer: Trane Co., La Crosse, Wis.

Features: Vibration-free operation resulting from cylindrical body design, V and W arrangements of the 4, 6, and 8-cylinder models, counter balancing of all reciprocating forces, static and dynamic balancing of crankshafts, and reduction of moving weight through use of aluminum pistons and connecting rods. Require no special foundations, floor construction, or soundproofing. Noise level reduced to below that of average office through use of plastic

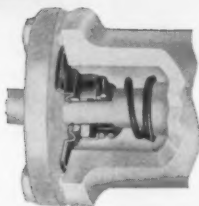


cushioned valves, aerodynamically designed suction and discharge gas passages, and location of all parts of

ROTARY SEAL

Replacement Units

UNIT NO.



1115

AVAILABLE FOR MORE THAN
900
COMPRESSOR MODELS

Easy to Install Efficient in Operation
Simple in Construction Economical

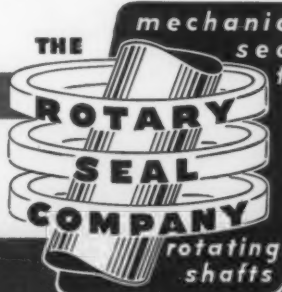
For Commercial, Semi-Commercial, Air-Conditioning and Home Refrigerator Compressors . . Proven by outstanding performance over 20 years!

AT
ALL

THE

mechanical
seals for

LEADING
JOBBERs



"Seal with

Certainty!"

2020 NORTH LARRABEE STREET
CHICAGO 14, ILLINOIS, U.S.A.
CANADIAN AGENT: 2025 ADDINGTON AVENUE
MONTREAL 28, QUEBEC, CANADA

Circle No. 50 on Reader Service Card for more information

the capacity control system within the compact cylindrical body. Low power consumption results from high volumetric efficiency of basic design and the completely automatic internal multi-step capacity control or "unloading" system. Compressor is started completely unloaded.

Circle No. 141 on Reader Service Card

Blower Cooler

Product: "Sno-Breze 3500" blower cooler.

Manufacturer: Palmer Mfg. Corp., Phoenix, Ariz.



Features: Offers greater cool air volume output than previous models, yet consumes less power. Built to provide cooling for homes, offices, or

commercial establishments. All moving parts and assembly parts completely insulated by heavy-gauge rubber mounting to minimize noise. Patented water regulator assures equal amount of water delivery to each pad area, regardless of position of cooler. Clean-out plug is readily accessible. Powered by $\frac{1}{3}$ -hp G-E motor mounted on rubber supports. Can be installed in window or attached to ducts.

Circle No. 142 on Reader Service Card

A NEW plasticized vinyl gasket designed to provide a better door seal and reduce refrigerator operating costs has been announced by Westinghouse Electric Appliance Div.

The vinyl gasket is claimed to be stronger, more durable and to have a longer life than the rubber gasket it replaces. In addition, it is reported to be more resistant to deterioration caused by kitchen oils, fats and acids.

Deterioration of the gasket permits warm air to penetrate into the refrigerator and results in a loss of operating efficiency. The new gasket will mean a marked savings to the consumer both in gasket replacement cost and reduced operating cost.

In 1946 some 2000 refrigerators were equipped with the vinyl gasket and sent to consumers across the nation. The new gasket was subjected to severe tests in the hot and humid southern regions as well as the colder climates of the north. Periodic checks for stains, resilience, deterioration and loss of operating efficiency showed that the gasket can take it.

Batch-Feeding Freezer

Product: Double-head $2\frac{1}{2}$ gallon batch-feeding freezer.

Manufacturer: Sweden Freezer Mfg. Co., Seattle, Wash.

Features: Model is of same width and depth as standard 1-130 and has



all the features of this in addition to batch-freezing feature. Latter consists of two 4-gallon stainless steel refrigerated mix holding tanks placed in top of freezer and a magnetic solenoid valve for releasing fresh supply of mix into rear of cylinder. When cylinder becomes empty operator twists hand switch above cylinder and continues with other duties. Solenoid valve permits measured batch of mix to enter cylinder, preventing overcharging. Mix tanks are removable for cleaning, without tools. Feature eliminates manual filling.

Circle No. 143 on Reader Service Card

... AND WE QUOTE

John F. Skillman, of the production controls staff of National Production Authority, speaking at the recent Priorities and Allocations Clinic of the Cleveland Engineering Society, on how and why the government has put the Controlled Materials Plan together again.

"... we must make up our minds where we draw the line. So we begin to look beyond the military items. And an item will come up such as refrigerators, and everyone in the room says, Well, I don't think we have to tell the refrigerator manufacturers just how many to make, what kind to make, where to ship them. Then

somebody says, Yes, but how about those defense plants? We allotted steel for their housing needs, and we've given them a defense rating to get other material than steel, copper and aluminum, and will you let them stand idle for lack of refrigerators?

"Well, no, we'll take care of those. If it's just a few refrigerators, we'll give the fellow his DO rating. He'll buy the refrigerators with those. Now your refrigerator manufacturer, we've decided, is not going to be programmed. He's on the outside. We're not telling him what to do and therefore we're not giving him the material. But now we've decided we're going to slap a rating on him for, let's say, 10% of his production for defense housing.

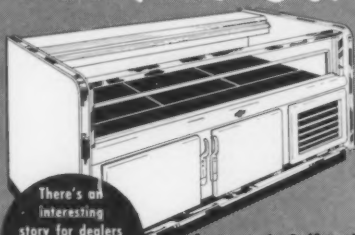
"But how about combat vessels? They have refrigerators. Sure,

we'll add those. Well, how about army posts and encampments, and post exchanges? Yes, we've got to take care of those. Has anybody thought of hospitals? Oh, well, sure, we'll take care of hospitals. And we wake up, finally, finding that we have programmed every refrigerator that's going to be made this month, next month, and the month after.

"So then we start all over again. We had a good idea. We aren't going to program all refrigerators, but we are going to program just a few. Now, what few? This entire group, of course, could argue for six months on that problem. Any three of us could argue for three months on it, and not come to any decision. The determination of essentiality is one of the most difficult things, gentlemen, that can be put up to any man."

Circle No. 51 on Reader Service Card for more information

Serving America's Finest Food Stores!



There's an interesting story for dealers in "Bally MEANS BIG BUSINESS". Copies available

**Automatic Self-Defrosting
FROZEN FOOD CASE**
with Big Lower Storage Section

**...ONE OF 62 DIFFERENT
BALLY MODELS and SIZES**

Bally

REFRIGERATED DISPLAY CASES
Bally Case and Cooler Co., Bally, Pa.

the Dean Says—

NOW ... BUY YOUR PLATES IN THE SIZES YOU NEED!

ZINC METALLIZED STEEL, STAINLESS
STEEL AND OTHER METALS.
CYLINDERS, U's, ANGLES,
TANKS, ETC.



DEAN

"JOB
TAILORED"

EVAPORATOR PLATES

Now you can get your plates exactly as you want them . . . any size . . . any shape . . . any metal! Think what this means in time saved . . . **MONEY SAVED!** Before you buy another plate, get the facts on DEAN "job tailored" cold plates. It will be well worth your while! Ask your jobber, or write

DEAN PRODUCTS, INC.
1042 Dean St., Brooklyn 16, N.Y.
STerling 9-5400

Write for Technical Data Book

DEAN COLD PLATES

for
FROSTED FOOD DISPLAY
CABINETS
ICE CREAM CABINETS
SODA FOUNTAINS
FARM MILK COOLERS
FARM FREEZERS
LIQUID COOLERS
WINDOW DISPLAYS
FOOD COUNTERS
LOW TEMPERATURE
TEST ROOMS
REFRIGERATED TRANS-
PORTATION

Plates also available for
Baudelot-type Coolers

Circle No. 52 on Reader Service Card for more information
and **AIR CONDITIONING • JULY, 1951**

WE TAKE CARE OF



Eastern

CONDENSATE

DISPOSAL UNIT



Designed for the air conditioning field, here is a completely automatic, foolproof unit that removes condensate fluids from the receiver tank and pumps them to an outside drain. Simple to install . . . Low operating cost . . . Totally enclosed motor . . . Compact, rugged, rustproof construction . . . Quiet and reliable in operation.

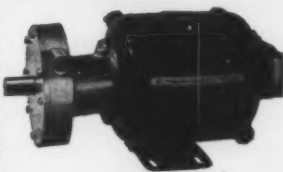
SPECIFICATIONS

Tank — Approximately 1½ gal. capacity with ¾" inlet, ½" outlet. Brass with black enamel outside.
Pump—Bronze centrifugal pump. Delivery app. 4½ GPM at 0 PSI and shut off of 12½ PSI.
Motor — 1/40 HP 3450 RPM, single phase, 60 cycles, 115 volt, totally enclosed, ball bearing, capacitor start motor.

Control — Controlled by a float operated switch, so set to pump out app. 0.8 gal. of condensate at each operation. Built-in check valve prevents the outlet line from draining back into the tank.
Overall Dimensions—5¼" wide; 9¾" long; 12 15/16" high. Weight 21 lbs.

Investigate Eastern's Proven Pumps for ICE CUBING MACHINES

Designed for continuous duty under severe operating conditions, the Eastern Model D-11 Pump is a heavy duty centrifugal pump. Size: 10" x 5½" x 5". Weight: 18 lbs. Power: ½ HP, heavy duty, split phase, fully enclosed, induction motor. Available in 110 or 220 volts A.C. Maximum output: 8 GPM at zero pressure. Maximum pressure: 14.5 PSI at shut off. Furnished in special alloys for hazardous service. Built for dependable service.



MODEL D-11

WRITE FOR COMPLETE CATALOG
Dept. A-11

Eastern INDUSTRIES

I N C O R P O R A T E D
2 9 6 E L M S T R E E T
N E W H A V E N , C O N N .

Circle No. 53 on Reader Service Card for more information

ACRMA-REMA SUMMARY OF COMPRESSOR SHIPMENTS

(NUMBER MANUFACTURED AND SOLD FOR REFRIGERANTS OTHER THAN AMMONIA)
FIRST QUARTER, 1951

Horsepower	SEALED-TYPE (HERMETIC OR CLOSED) FORM A					OPEN-TYPE, AIR-COOLED FORM B					OPEN-TYPE, WATER-COOLED FORM C				
	Continental U. S.			Export (Q)	Grand Total (R)	Continental U. S.			Export (Q)	Grand Total (R)	Continental U. S.			Export (Q)	Grand Total (R)
	Mfrs. (N)	Non- Mfrs. (O)	Total (P)			Mfrs. (N)	Non- Mfrs. (O)	Total (P)			Mfrs. (N)	Non- Mfrs. (O)	Total (P)		
SOLD IN UNITARY (END-USE) PRODUCTS															
1/8 & Less	xxx	xxx	73,359	3,304	76,663	xxx	xxx	268	*	*	xxx	xxx	640	2,258	
1/4	xxx	xxx	41,882	1,186	81,502	xxx	xxx		*		xxx	xxx			
1/2	xxx	xxx				xxx	xxx		*		xxx	xxx			
3/4	xxx	xxx				xxx	xxx		*		xxx	xxx			
1	xxx	xxx				xxx	xxx		*		xxx	xxx			
1 1/2	xxx	xxx	38,434	132	4,704	xxx	xxx				xxx	xxx	1,574	44	
2	xxx	xxx	4,572			xxx	xxx				xxx	xxx			
3	xxx	xxx				xxx	xxx				xxx	xxx			
5	xxx	xxx				xxx	xxx				xxx	xxx			
Sub-Total	xxx	xxx	158,247	4,622	162,869	xxx	xxx	268	*	*	xxx	xxx	5,509	192	5,701
SOLD AS COMPRESSOR BODIES, COMPRESSORS, OR CONDENSING UNITS															
1/8 & Less	113,820	2,739	224,723	36,528	368,873	3,297	2,742	6,039	1,841	11,485	82	158	1,393	1,170	6,019
1/4	108,164	3,167	56,849			1,907	4,507	6,414	3,605	8,928					
1/2	53,682					1,520	4,860	6,380	2,123	8,503					
3/4						732	3,414	4,146	1,169	5,315					
1						2,005	2,604	4,609	594	5,203					
1 1/2	47,494	3,279	50,773	285	1,835	2,120	397	2,517	150	1,227	1,377				
2						506	3,299	3,805	336	4,141	240	1,310	1,550	54	1,604
3						550	2,094	2,644	239	2,883	239	1,125	1,364	98	1,462
5												278	995	1,273	130
											228	930	1,158	119	1,277
Sub-Total	323,160	9,185	332,345	36,528	368,873	10,802	25,355	36,157	12,818	48,975	1,859	8,335	10,194	1,571	11,765
Grand Total	xxx	xxx	490,592	41,150	531,742	xxx	xxx	36,425	*	*	xxx	xxx	15,703	1,763	17,466

* Figures omitted to avoid disclosure of operations of individual companies.

NOTES: Totals shown above DO NOT include compressor bodies shipped for or incorporated in HOUSEHOLD REFRIGERATORS.

In order to avoid disclosing the operations of individual companies, some date for two or more sizes of units are combined.

REPORTING COMPANIES: Airtemp Div., Chrysler Corp.; Baker Refrigeration Corp.; Brunner Mfg. Co.; Carrier Corp.; Curtis Refrigerating Machine Div. of Curtis Mfg. Co.; Frigidaire Div., General Motors Corp.; General Electric Co.; General Machine & Mfg. Co.; Kelvinator Div., Nash-Kelvinator Corp.; Lehigh Mfg. Co., Div. of Lehigh Foundries, Inc.; Lynch Corp.; Mills Industries, Inc.; Norge Div., Borg-Warner Corp.; Servel, Inc.; Tecumseh Products Co.; Universal Cooler Div., Tecumseh Products Co.; Westinghouse Electric Corp. (Springfield and Hyde Park (Boston), Mass.); Worthington Pump and Machinery Corp.; York Corp.

REFINEMENTS ON ACME CHILLERS ANNOUNCED

Alwin B. Newton, vice president of engineering at Acme Industries, Inc., has announced that several refinements are being made on the Acme Dry-Ex liquid cooler.

A steel pipe nipple is now being welded to the cast steel refrigerant head, eliminating a gasketed joint which was previously inaccessible. The connection is reamed out on the end to fit the O.D. of copper tubing. Since the test cap is silver soldered in place, it may be removed and the field connection made in one heating operation when a copper suction or liquid line is to be silver-soldered to the chiller connection.

Field connections may be made of steel pipe or tubing welded directly to the nipple on the chiller, which is previously scarfed for welding.

Chillers will be furnished with the

old flanged type construction of refrigerant connections to balance out the present inventory of machine castings. They will then be furnished with the improved type of connection.

GEORGIA DISTRIBUTOR PROMOTES TWO MANAGERS

John M. Downing and Earl F. Young have been elected vice presidents of Mingledorff's, Inc., air conditioning, refrigeration and heating firm with headquarters in Savannah, Ga., and branches in Brunswick, Tallahassee, Albany and Augusta.

Young has supervised installations of air conditioning equipment in such large Savannah establishments as Levy's of Savannah, Leopold Adler, Hogan's, Weis Theater, General Oglethorpe Hotel, DeSoto Hotel, and other locations. Downing has been manager of the company's home appliance department.

BEVCO BUYS INVENTORY OF EXPORT PACKING CO.

Bevco Co., Inc., St. Louis, has recently purchased the remaining supply of refrigeration supplies, tools and dies of Export Packing Co., St. Louis. Export Packing formerly manufactured "Standard" home and farm freezers and milk coolers.

The acquisition will increase Bevco's ability to deliver coolers to its present trade, since the steel and copper allotted to Export Packing Co. now accrues to Bevco.

MAYFLOWER SALES TO HANDLE SUNROC

Mayflower Sales Co., St. Louis, has been appointed distributor for Sunroc water coolers in parts of Kansas, Missouri and Illinois. The company has branches in Kansas City, Mo., and Wichita, Kan. M. B. Lasky is president.

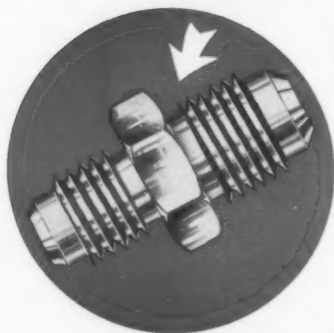
You'll SAVE with the EXTRA VALUE of
HEAVYWEIGHT

KEROTEST

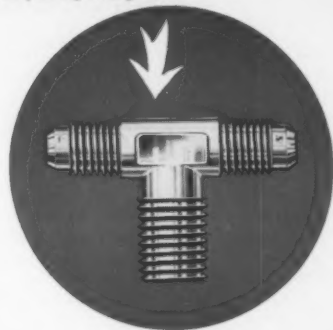
REFRIGERATION QUALITY

FITTINGS

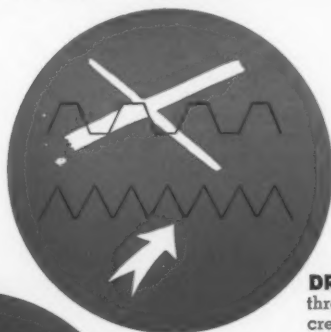
Here's Why—



BIG HEX on unions like this means a secure wrench grip and no twisted-off corners, making freon-tight joints.

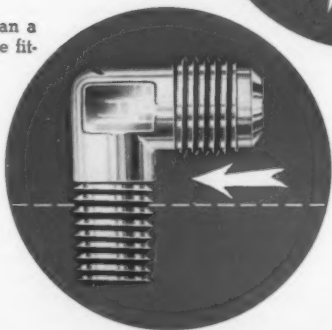


FORGED brass is your sure bet against pinhole leaks. Forging makes the metal absolutely non-porous.



DRY SEAL threads are the full bodied thread for you. You can see how the full-crested pyramidal thread form fills up when mated—leaves no room for leaks.

LONG THREADS mean a tight joint long before the fitting screws in snug . . . leaves clearance for adjusting adjoining fitting.



Write

for your **FREE** copy of the **KEROTEST** catalog of Refrigeration Valves and Fittings.



Always Extra Value

at No Extra Cost

SEE YOUR

KEROTEST

WHOLESALE

KEROTEST MANUFACTURING CO.

PITTSBURGH 22, PENNSYLVANIA

Circle No. 54 on Reader Service Card for more information
 and **AIR CONDITIONING • JULY, 1951**



Ansul research chemist John D. Bopp checks specifications of oil samples on standard A.S.T.M. equipment, including colorimeter and viscosimeter.

* * *

Ansul's Free Technical Research Service Benefits Entire Industry

A firm conviction that what helps the refrigeration industry helps its own business is the guiding principle behind the free technical advisory service which has been offered for many years by Ansul Chemical Co. to the entire refrigeration industry.

At least 25% of Ansul's research effort is devoted to developing customer good will—specifically assisting refrigeration service engineers with their technical problems.

Although most service engineers are well qualified to handle the mechanical problems of refrigerating systems, few have the schooling or on-job training to solve chemical problems arising from the corrosiveness of various metals with refrigerants, formation of waxes and sludges, effects of moisture on refrigerating systems, etc.

In the formation of sludge, for instance, Ansul found some service engineers were substituting entire new systems when the only difficulty was a small chemical failure, with the result that thousands of dollars were being spent in replacing still-good parts.

How It Is Organized

Accordingly, Ansul organized a technical assistance program, as part of its research department.

Under this program, the service engineer writes to Ansul setting forth his problem and submitting a sample of the substance or the part causing the problem. A detailed answer is provided immediately, without charge.

For 15 years inquiries for help have come in at the rate of 20 or so a month. Ansul conservatively estimates that each costs the company

\$10 to process. Time spent by a chemist tracking down the answer varies from a minimum of one hour to as much as two full days.

Each request must be individually handled, which naturally includes a detailed letter signed by either Ansul's research director or by the chemist who worked on the problem. Technical bulletins are occasionally enclosed with the letter, but they are not used as a substitute for answers to specific questions.

What They Want To Know

Most problems submitted by service engineers are directly related to the refrigerants Ansul sells, but Ansul Research also solves a great many problems that have no connection with company products. Obviously, this non-profit effort benefits the entire refrigeration industry.

Throughout the years Ansul Research has learned that, with few exceptions, all questions fall into these categories:

1. chemical analysis of sludges
2. evaluation of driers
3. moisture analysis of refrigerants
4. toxicity of refrigerants

Some questions must be answered to the detriment of an Ansul product. To illustrate this, suppose a service engineer complains of sludge formation in a refrigerating system operating with methyl chloride. Ansul instantly suspects the presence of aluminum in the sludge sample. If substantiated by chemical analysis, the letter to the service engineer explains that methyl chloride and aluminum react and should not be used together.

Product development is an im-

portant adjunct of Ansul's technical assistance program. An example of this is the company's new wax-free oil, which grew out of an original research discovery.

For years service engineers had assumed that moisture (ice) clogged expansion valves in refrigerating systems. But eliminating moisture did not always eliminate clogging, so Research looked into other possibilities.

First, it suspected the oil used in refrigerating systems. Extensive laboratory work showed that, under certain conditions, every refrigeration oil separated wax. The wax in time clogged expansion valves and the machine stopped operating. The longer it stayed idle, the more the machine warmed up. Eventually the wax melted, disappeared into the system (unclogging the valve) and the machine started again.

Wax Was the Villain

Because of its rapid melting rate, wax until this time had not been suspected as one of the causes of trouble in refrigerating systems. When Research learned this, it also developed a method of analysis to determine the wax separation characteristics of various oils.

The company then drew up specifications for the right kind of oil and proceeded to find a refinery that could turn out an acceptable product.

Sludge analysis is the backbone of the assistance for the service engineer. Samples vary in size from several ounces to a speck no larger than the period at the end of this sentence. When the sample shrinks to this latter size, chemical analysis turns into micro-analysis.

Sludge-submitting service engineers want the answers to three questions:

1. Where did this stuff come from?
2. How can I get rid of it?
3. How can I stay rid of it

How Answers Are Found

To answer these questions, Ansul Research first runs a chemical analysis. Sludge constituents may include iron, chloride, copper, aluminum, calcium, sulphate, etc. Solubility tests in carbon tetrachloride determine whether the sludge is derived from oil. Once the chemical composition has been definitely learned, the Ansul chemist—on the basis of years of experience and dozens of similar problems—deduces what caused it and why.

Various recommendations for getting rid of the sludge are offered. These range from complete overhauling of the unit, if the sludge formation is extensive, to a minor correction such as placing a strainer in the liquid line ahead of a fresh drier, if the formation is small.

Compressor parts, damaged by chemical action, are also sent to Re-

search for diagnosis. An explanation of the cause and remedial suggestions are sent to the service engineer by return mail.

Speed of communication is a vital phase of the program. For the majority of inquiries, first class mail is used. If the sender is in an obvious hurry, his answer is airmailed, telegraphed or even telephoned always without charge.

Others Share the Benefits

Service engineers are not the only men who take advantage of the unusual facilities at Ansul. Contractors and refrigeration parts wholesalers write the company regularly. Nationally-known manufacturers of the complete machine also have been known to call for assistance.

Refusal to speak unfavorably of a competitor's product is a strict policy. If analysis shows that a competitor's product has failed in any way, the service engineer is urged to get in touch with the manufacturer for the answer to his problem.

Biggest obstacle to overcome when working on a service engineer's technical problem is inadequate information, due to poor reporting, lack of complete honesty or both.

Too often the engineer omits relevant data such as the type of refrigerant, type of system, operating temperatures, etc. Almost as often the engineer omits pertinent details that might reflect on the quality of his work. This latter is especially unfortunate, since Ansul Research is trying to solve a problem, not fix blame.

When information is scant the chemist goes as far as he can on the basis of the material he has to work with. Beyond that he suggests several alternatives and makes recommendations for action on each. In this way one of the answers will apply.

ARROW UTILITIES IN ENLARGED QUARTERS

Arrow Utilities, Brooklyn, N. Y., air conditioning, fuel oil and heating firm, recently moved into its new enlarged quarters. The firm serves Brooklyn, Queens and Manhattan. Opening of the new building also marked the authorization of Arrow Utilities as a Westinghouse air conditioning contractor. The firm also handles Fedders room air conditioners, water coolers, ice cube makers, fuel oil and heating installations.

Marvin Levy is sales and engineering manager of the company, of which Harold Reiter and Paul Dinowitz are partners and Harry Ginsburg, credit manager.

FLORIDA CARRIER DEALERS CONVENE

Fifty Southeastern Florida dealers attended an all-day conference held recently at the Columbus hotel by the Air Conditioning Corp., Miami, distributor for Carrier.

Hosts were Paul E. White, president, and Robert Gussman, or the distributorship. Conducting the meeting were J. A. Gazelle, dealer sales manager of Carrier; George Long, southeast division manager, and George Robertson, district manager.

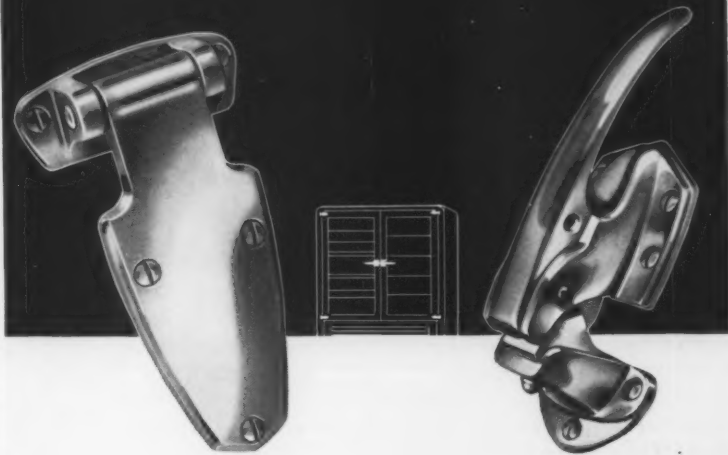
HANDLES MARTOCELLO LINE IN GEORGIA AND ALABAMA

Industrial Products Co., Atlanta, has been appointed representative for Joseph A. Martocello & Co., Philadelphia, in the states of Georgia and Alabama. W. T. Leak is president of Industrial Products, and will direct the sale of Martocello ice-making equipment and air-agitation systems in the territory.

**BUY FROM YOUR
REFRIGERATION WHOLESALE**

Grand Rapids Brass

COMMERCIAL REFRIGERATION HARDWARE
FOR NEW EQUIPMENT OR REPLACEMENT



*Locks, Strikes and Hinges
that Contribute to Quality
in the World's Finest Refrigerators*

Grand Rapids Brass Company

A DIVISION OF CRAMPTON MANUFACTURING COMPANY

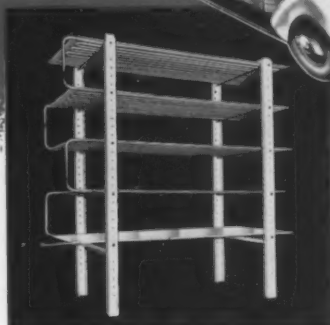
Circle No. 55 on Reader Service Card for more information

let **KOLD-HOLD** show you
*the most efficient line
of refrigeration products
money can buy*



Serpentine Plates

"Hold-Over" Type Plates

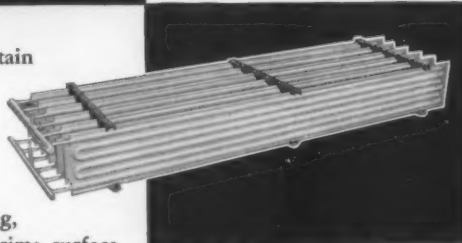


Serpentine Plate Stands

There is a difference in the performance of Kold-Hold Refrigeration Plates that shows up in reduced operating costs. The difference is found in their greater efficiency . . . their ability to pull down larger loads, faster . . . using less power . . . at a lower cost to you.

This efficiency is readily apparent in "Hold-Over" Plates that maintain dependable, low temperatures in truck bodies for as little as 10c a day. Operated off the existing plant cooling system or by a condensing unit mounted on the truck, they hold predetermined temperatures throughout the longest day's hauls and reduce the cost of marketing perishable foods.

This efficiency can be seen in "Serpentine" Plates for quick freezing, chilling and holding. These plates have the equivalent of 100% prime surface because the refrigerant flows in a continuous pass formed in the plate itself. There is no internal tubing or piping. This exclusive "Serpentine" design in individual Plates, Plate Stands and Plate Banks assures you more efficient refrigeration . . . less trouble . . . lower costs! *Send for full details today!*



Serpentine Plate Banks

KOLD-HOLD

protects every step of the way

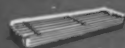
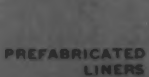


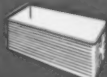
PLATE BANKS



PLATE STANDS



PREFABRICATED LINERS



SERPENTINE EVAPORATORS



"HOLD-OVER" PLATES

KOLD-HOLD MANUFACTURING COMPANY 503 E. Hazel St., Lansing 4, Michigan

DO-97 DOLLAR LIMIT NOW 120% OF BASE

The National Production Authority has adjusted limitations on the use of a defense order rating (DO-97) for maintenance, repair and operating supply items to compensate for increased prices and accelerated programs. This action, an amendment to NPA Regulation 4, permits use of the DO-97 rating for up to 120% of the amount spent on such MRO items during the base period. The limit had been 100%.

NPA explained that this situation developed because:

1. Prices on MRO items have increased about 10% over the base period average. These organizations weren't getting as much material as they were during the base period, since limitation is on a dollar expenditure basis.

2. Expansions and increased use of available facilities created a demand for more MRO items that the very time organizations were getting less because of the price factor. This increased demand was estimated at 10%.

Therefore the limitation on DO-97 use was increased from 100% to 120% to absorb the increased price and use factors.

In addition to the use increase, the amendment also made these changes in Regulation 4 to provide flexibility and to reduce the flow of applications for quota adjustments:

1. Any organization that uses the DO-97 rating to get 20% or less of its quarterly quota will also be permitted to purchase an unlimited MRO total without use of the rating, subject to inventory and use limitations and any restrictions contained in other NPA orders. Hereafter, if a firm used the DO-97 rating at all, it was limited to an overall total of 100%, rated or unrated, of its base period use.

An organization now will be able to use DO-97 for some scarce items and still be free to make increased purchases of other needs on the open market. This should tend to prevent unnecessary DO-97 use, NPA said, as well as conserving its use for the more scarce materials.

2. The amended order permits a choice of base period: either the calendar year or the nearest fiscal year ending before March 1, 1951.

3. DO-97 use for capital additions is limited to 10% of the quarterly quota or to \$750, whichever is higher. This is to prevent over-use for capital additions at the expense of MRO use, NPA said.

4. Companies which have more than one plant within the United States and its territories and possessions now have the option of deciding whether MRO quotas shall be established for each plant individually or for the organization as a whole. Previously, quotas were on a single-plant basis.

5. DO-97 cannot be used to obtain material on lease.

The defense rated order for maintenance, repair, and operating supplies may be used by all business firms, government agencies, and public and private institutions such as schools, libraries, hospitals, churches, clubs, and welfare establishments. It may not be used for procurement of personal or household supplies.

THIELE NO LONGER WITH KOLD-HOLD CO.

J. R. Tranter, president of Kold-Hold Mfg. Co., has announced that E. A. Thiele, sales representative and former general sales manager, has resigned because of ill health and the pressure of outside interests.

J. R. Tepfer is general sales manager of Kold-Hold at present, and C. K. Davis is sales manager of the Refrigeration Division.

Circle No. 58 on Reader Service Card

You can be
SURE with
MADDEN
Duo-Test
DRIERS



Top quality, one-piece copper shell drier, silver solder construction, with monel fine-mesh filter at inlet and outlet. Madden Duo-Test Driers are charged with finest refrigeration grade, dust-free silica gel. Non-refillable types in 3, 6, and 9 cu. in., and refillable types in 12 to 50 cu. in. capacities.

Always be sure—with the complete Madden line of fittings, driers, strainers, charging lines and accessories.

Send for Catalog E-7

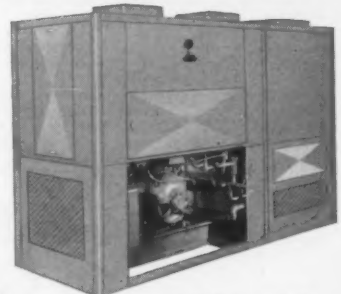
MADDEN BRASS PRODUCTS CO.
1111 N. FRANKLIN ST. CHICAGO 10, ILL.

Balance Your Air Conditioning PROFITS with BAL-AIR "all seasons" Equipment

For truly balanced . . . superior performance . . . automatic air conditioning at its best . . . install BAL-AIR central station air conditioners with built-in evaporative condensers. BAL-AIR's many production models enable selection of the proper conditioner to meet your requirements for every job.



APH (horizontal) Series:
3 through 60 ton capacity
Adaptable for duct installation
to all types of air conditioning



APR Series: 3 through 60 ton capacity

BALANCED IN:

- Design—engineered for greater efficiency
- Construction—minimum vibration, easy inside OR outside installation
- Air Delivery—maximum comfort
- Economy—low initial and operating cost . . . minimum water usage

Write, phone or wire for complete information.
Some distributor territories are still open.

BAL-AIR, Inc.

BERRY FIELD—NASHVILLE 10—TENNESSEE

Circle No. 57 on Reader Service Card for more information

CONTRACTORS

NEWS • ACTIVITIES • PLANS

RACCA Head Is N.Y. "Man of Year"



Theodore A. Reina (left), president of the Refrigeration and Air Conditioning Contractors Association and a past president of the Refrigeration & Air Conditioning Guild of New York City, was honored as the "Man of the Year" for 1950 at the Guild's annual dinner-dance at the Park Sheraton Hotel recently. Presentation of the award was made by Sterling F. Smith, special advisor to the Machinery Division of the National Production Authority. The plaque cited Reina as a man who "by his leadership, progressive thinking and unselfish service, has made an outstanding contribution to the elevation of the standards and practices of the refrigeration and air conditioning business and has fostered mutual understanding among all segments of the industry". This was the first presentation of the "man of the year" award, which is to be given annually by the Guild.

Contractors Seek Broader Guarantees, "Fair Sales Code" for Industry

IN A program of progressive action outlined at their quarterly meeting May 19 and 20 in New York City, directors of the Refrigeration and Air Conditioning Contractors Association (RACCA) moved to ask manufacturers of refrigeration units and systems to broaden their guarantees, and to petition the Federal Trade Commission to set up a "fair trade code" for the industry.

Directors of RACCA also made initial plans for the organization's annual meeting Nov. 3 and 4 in Chicago, just prior to the All-Industry

Show at Navy Pier. Contractor headquarters will be the Knickerbocker Hotel.

On the matter of guarantees, it is the thinking of RACCA that these should be broadened in scope to cover transportation charges and contingent liabilities that may be incurred by the contractor because of the failure of the part, and not just replacement of the defective part itself.

It was mentioned, by way of example, that if a relief valve goes bad the only thing covered by the guarantee is the part itself, but not

any other loss that might result from the failure of the part—loss of refrigerant, for instance—which the contractor might have to replace at his own expense.

Another example cited was in the case of condensing units, where the defective unit is readily replaced by the manufacturer but the costs of labor and additional material necessary to make the change for the customer are borne by the contractor.

C. W. Brown, of the Air Conditioning Department of General Electric Co., a guest of the RACCA directors during the discussion on guarantees, outlined his own company's current thinking in the matter of enlarging the guarantee coverage by means of some "insurance" arrangement such as RACCA has in mind.

RACCA directors explained that at this early stage of discussions they have no definite suggestions as to how this broadened guarantee might be effected, but that two possible methods would be through a system of warranty reserves or by arrangement for insurance of some sort. This latter method is already in use by some companies, they said.

It was also emphasized that manufacturers would not be expected to absorb the cost of such a program; this, RACCA directors believe, could be included in the manufacturer's price.

Regarding the contemplated FTC petition, Chairman George T. Howe of RACCA's unfair competitive practices committee reported that actual instances of alleged unfair activities on the part of ice cream manufacturers, bottlers, dairy companies and the like are being compiled, and that as soon as this material is assembled a formal petition will be filed.

Contractors having exact details of unfair practices of this sort were urged to report them to national RACCA headquarters.

RACCA contends that refrigeration equipment is, in effect, a "football" used by ice cream companies, dairies, bottlers, etc., and not a profitable activity to them as it is to the contractor selling to these fields. Most firms in the dairy and ice cream field would rather not be in the cabinet business, anyway, RACCA believes, and would not be inclined to oppose a forceful stand too solidly.

The first day's sessions of the an-



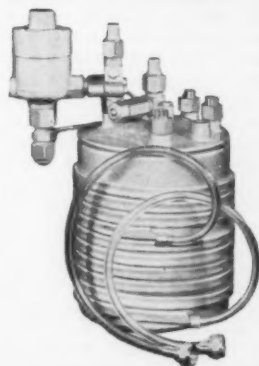
Here's a very profitable item
for every distributor and dealer
to **PUSH RIGHT NOW!**

Temprite draught beer coolers lead the way to HOT volume in HOT weather!

Warm weather boosts tavern beer business but at the same time reduces the efficiency of many existing draft beer refrigeration systems! And any tavern owner, inconvenienced by equipment which cannot properly carry hot weather loads, will naturally consider reconditioning or replacing existing equipment. This is the time to push **TEMPRITE** draught beer coolers and dispensing units! *A TEMPRITE unit will handle hot weather demands to perfection!*

TEMPRITE CORRECTS COMMON DRAUGHT BEER TROUBLE

Warm beer, foamy beer, waste beer, unpalatable beer and slow service result in loss of money, and even more important, loss of customers who are dissatisfied. *TEMPRITE cooled draught beer is RIGHT from the beginning to the end of every keg.*



High refrigerating efficiency, small size and special beer dispensing design, make Temprite Beer Coolers ideal for either replacement purposes (where condensing unit is available) or completely new installations.

"Be right
with Temprite"



Temprite

PRODUCTS CORPORATION

P.O. BOX 72-B, EAST MAPLE RD.
BIRMINGHAM, MICH.

TEMPRITE PRODUCTS CORPORATION
P.O. BOX 72-B, EAST MAPLE RD.
BIRMINGHAM, MICHIGAN

Send me details on Temprite Beer Coolers, which I understand are available for immediate delivery.

NAME _____

COMPANY _____

STREET _____

CITY AND STATE _____

Circle No. 59 on Reader Service Card for more information

JULY, 1951 • COMMERCIAL REFRIGERATION

nual RACCA meeting, according to present plans, will be devoted to talks and discussions on general industry problems as they affect contractors. Such subjects as government procurement, wage-price controls, trade relations between manufacturers and contractors and wholesalers, current trends in air conditioning designing, and proper methods of estimating air conditioning proposals are among the topics to be covered. A luncheon with a guest speaker and a buffet supper meeting also are tentatively scheduled for the first day.

Annual RACCA business meeting will be held the second day, and there may also be some additional talks.

Board members reported a substantial increase in membership dur-

LOST—70,000 CYLINDERS

FREON-12 will be a problem with refrigeration contractors, and with other users in the refrigeration field, unless the rate of return of empty cylinders picks up beyond what it has been in recent months.

This warning was given to directors of Refrigeration and Air Conditioning Contractors Association at their recent meeting by Sterling F. Smith, special consultant to the Machinery Division of the National Production Authority.

More than 70,000 cylinders have been "lost" since June of last year, Smith said. Until these are located and put back into service difficulties in obtaining Freon can reasonably be expected. Smith handled allocation of the refrigerant by WPB during World War II.

ing the past few months. Two local contractor groups have joined the national organization, and similar action is being contemplated by seven other groups, it was reported. The membership committee said its goal for 1951 will easily be attained.

Directors present at the meeting included Theodore A. Reina, president; Lee J. Quinn, first vice president; Ralph W. Lampie, second vice president; Cecil E. Kirby, recording secretary; R. W. Noll, immediate past president; Warren W. Farr and George T. Howe, directors, and Nathan Edelstein, executive vice president.

Proposed Licensing Code Has Support of N. Y. Contractors

A PROPOSED refrigeration licensing code, calling for the issuance of licenses to individuals who can qualify as "master refrigeration contractors", was introduced in the New York City Council on June 5 with the support of the Refrigeration & Air Conditioning Guild.

The bill, proposed as an addition (Title E) to Chapter 26 of the administrative code, is set up in the same form as the present New York City codes covering electricians and plumbers. It was discussed with various councilmen and department heads before being submitted, and is said to have the tacit support of several of them.

Guild members believe the bill may have a good chance of being passed during the council's present term.

A "master refrigeration contractor" is defined in the bill as "any person, partnership or corporation who engages in or carries on as his or its regular business, the business of installing, erecting, altering, maintaining, servicing or repairing refrigeration parts of any and all refrigerating systems, apparatus, fixtures, devices, appliances or equipment utilized or designed for refrigeration or air-conditioning, who carries on such business as an independent contractor having the final determination and the full responsibility for the manner in which the work is done, for the materials used and for the selection, supervision and control of any persons employed on the work engaged in by said person, partnership or corporation."

The "master refrigeration contractors license" would be issued to persons passing a written or written and practical examination. Applicants must have five years practical experience, or three-years experience if they have a technical degree in mechanical engineering from a college or university approved by the board of regents of the University of the State of New York.

The bill provides that all refrigeration contractors who have five years experience and showing sworn proof of this, and complying with the rest of the qualifications of the code, shall

be licensed without examination.

One of the qualifications is that contractors maintain a recognized place of business in a business zone, open during business hours, and maintain a "tangible" stock of refrigeration parts and/or equipment equalling a net cost or wholesale value of \$1000 or more. The license must be displayed at all times at this place of business, together with a permanent sign of at least 150 square inches stating the name of the license holder and the words "master refrigeration contractor".

A fee of \$50 is required when the original license is issued, and a renewal fee of \$25; a charge of \$5 would be made for examination, to be applied against the license fee if the applicant passed the examination. Licenses would be issued for the calendar year, and would not be transferable.

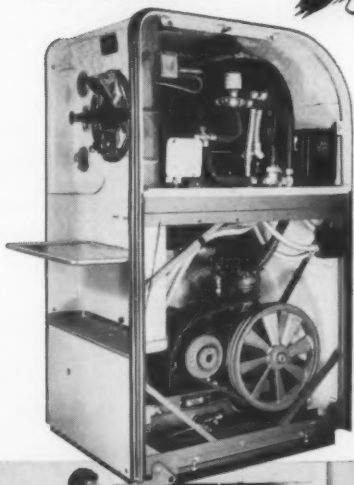
Administration of the proposed code would be in the hands of the Commissioner of Housing and Buildings, with a five-man license board consisting of: (1) an officer or employee of the department, (2) a master or employing refrigeration contractor, (3) a member of the general public, (4) a registered architect of at least five years experience and (5) a graduate mechanical engineer from a university recognized by the state board of regents, who has specialized in refrigeration for the last five years.

The four appointed members would serve two-year terms, except that when the bill is first enacted two of them would serve for only one year. A vote of at least four members of the board would be necessary for modification, suspension or revocation of a license, although three members would constitute a quorum for transaction of ordinary business. The board would meet twice monthly except during July and August.

Contractors and others interested in obtaining a copy of the complete licensing code proposal may do so by writing to the Refrigeration & Air Conditioning Guild, Inc., 154 Nassau St., New York 38, N. Y.

THE HEART OF GOOD REFRIGERATING AND AIR- CONDITIONING SYSTEMS

Mills 2 H.P. Self-Contained Water-Cooled Mills Condensing Unit in Mills Master Superautomatic 5-Gallon Freezer Model S5020.



The dependable operation of the Condensing Unit is vital to the success of any system of cooling, refrigeration or air-conditioning.

It is this marked dependability of Mills Condensing Units that has been responsible for their continued and growing use by those most experienced in the use of such units.

MILLS Units are compact, sturdy, efficient—made in a range of capacities to meet practically all applications:— $\frac{1}{4}$ to 3 h.p., air-cooled; $\frac{1}{2}$ to 10 h.p., water-cooled; and $\frac{1}{2}$ to 3 h.p., combination air- and water-cooled types.

New Catalog 204-1 is a handy guide to Condensing Unit selection—write for a copy.

MILLS INDUSTRIES, Incorporated

4100 FULLERTON AVENUE

CHICAGO 39, ILLINOIS

Ask for New Catalog 204-1



Typical installation of Mills Compressors. There is an efficient, dependable Mills Condensing Unit for every installation.

Note this bank of Mills Compressor Units. The practice of grouping units is growing rather than distributing them at various points about the location.

MILLS

COMPRESSORS and CONDENSING UNITS

New Price Regulation Governs Refrigeration Servicing Operations

SERVICE operations in the refrigeration and air conditioning fields now have their prices controlled by Ceiling Price Regulation 34 rather than the General Price Ceiling Regulation. The new regulation was effective May 16. It requires that a statement of ceiling prices, rates or pricing methods be prepared and kept and a duplicate filed with the local district office of the Office of Price Stabilization by June 15.

Service operators will probably find that their new price ceilings are the same as those they previously established under the General Ceiling Price Regulation. If so, the service operator must file a duplicate of his statement of ceiling prices that he previously prepared.

Little, if any, change in ceilings is expected, largely because the base period for CPR 34 (Dec. 19, 1950 to Jan. 25, 1951) is the same as that for the GCPR. Ceiling prices are the highest at which the service was delivered or offered for delivery during this period.

"Seasonal" Pricing Provided

However, a provision has been added to permit persons offering seasonal services to charge the highest price they charged during the 1950 season, if that service was not offered during the base period. If it was offered during the base period, their price should reflect their customary dollar differential between that season and the base period. Such "seasons" must extend over a period of at least 14 days.

The regulation provides three methods of determining ceiling prices, which are the same as in the General Ceiling Price Regulation. The ceiling price is the highest price charged for that service during the base period. If the service was not actually delivered during that period, the ceiling price is the highest price at which it was offered for delivery in that period.

If no flat price for a particular service was offered—in other words, if you charged on the basis of an hourly labor rate plus parts—you must keep the same factors as you used, or would have used, during the

base period. This means that you cannot charge more than the highest hourly rate you charged for labor during the period, or more than the highest price for each part.

If you did not sell or offer to sell a service during the base period, your ceiling price is that of your nearest competitor for the same service.

Suppose you can't price your services by any of these methods. Then you must apply to the OPS in Washington for a ceiling price, and your application must contain a description of the service, anticipate direct labor and material costs, and the proposed ceiling price. You must also explain why you can't price this service under CPR 34.

You cannot use your proposed ceiling until 20 days after you have filed your application, unless you hear from OPS in the meantime.

Pricing New Services

The regulation includes provisions for pricing new services, and for such special cases as pricing on long term contracts, percentage commissions on commodity sales or purchases, individual negotiated prices, prices to new classes of purchasers, cost-plus contracts, and use of flat-rate manuals or catalogs.

CPR 34 permits you to discontinue a service, but to do so you must apply to OPS and show that one of the following conditions exist:

1. That specialized equipment or supplies needed to continue that service are not available.
2. That its continuance is in violation of a government order or regulation or is rendered impractical by a government order or regulation.
3. That discontinuance of the service will enable you to maintain other services more necessary to the community.
4. That other suppliers in the community are able and willing to supply the requested service or a similar one at no more than your ceiling prices.

The regulation also provides that if you should buy out a competitor and continue to operate his business at his former location, you must continue to use his ceiling prices.

CONTRACTORS

NEWS • ACTIVITIES • PLANS

RACCA Offers New Service Contract

IN AN effort to acquaint all refrigeration contractors with the work and services it has available to members, the national office of the Refrigeration and Air Conditioning Contractors Association is offering them a free copy of a standard Refrigeration Maintenance Agreement, to be used with contractor customers.

The maintenance agreement is available to all contractors who write in, requesting information on RACCA membership, and who state that they would also like to see the maintenance form.

According to Nathan Edelstein, executive secretary of RACCA, the Standard Maintenance Agreement is a "proven and tested" legal instrument, which has been amended and corrected, and is more current and authentic than any other such instrument now in use.

Uniform Guarantee Clause

Particular emphasis is placed on the provision which provides for the latest type of uniform guarantee, which defines the guarantee by stating that the contractor is responsible to repair the equipment after it is brought to his attention, and not to keep it in condition before it goes bad, in the nature of an insurance policy. According to Edelstein, this new guarantee obviates all claims made by customers in reference to consequential losses.

The contract is divided into four sections, as follows:

1. The first section describes the variable details such as date, name of customer, amount to be paid, and description of equipment.
2. The second section covers the contractor's obligation, concisely stated.
3. Third section covers the customer's obligation.
4. Fourth section covers the obligation of both contractor and customer, clearly stated, together with the new form of guarantee.

The agreement is said to be easy to fill out, requiring only one signature at the bottom.

Circle No. 61 on Reader Service Card for more information



Quick Release Trays
24 standard size, quick release trays, 384 large cubes at one freezing.

Outside Entrance
An exclusive feature that eliminates opening of cube freezing section every time cubes are needed.



rapid freeze ice-cube maker

... that brings you the most advanced improvements in refrigeration history.

For illustrated literature call, write or wire:

REFRIGERATED EQUIPMENT SALES CORP.
19 West 44th Street, New York 18, N. Y., Dept. C-7

"BULLET PRODUCTS"



5 SIZES

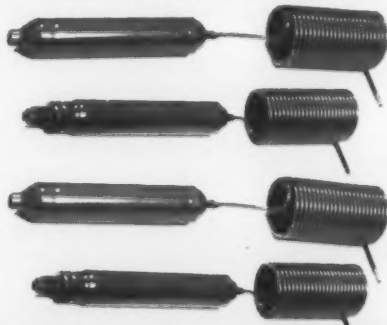
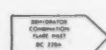
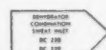
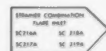
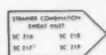
12 MODELS

STRAINERS
5/8" tubing - 3" long
150 mesh monel screen
\$ 210
1/4 sweat inlet to cap.
\$ 211
1/4 flare inlet to cap.
\$ 212
1/4 sweat to 1/4 sweat
\$ 213
5/16 to 5/16 sweat

DEHYDRATORS
5/8" tubing - 4" long -
100 mesh monel screen
inlet 150 mesh monel
screen outlet - 10 grams
silica gel.
D222
1/4 sweat inlet to cap
D223
1/4 flare inlet to cap
D224
1/4 sweat to 1/4 sweat
D225
5/16 sweat to 5/16 sweat

ENGINEERED CAPILLARY TO FIT THE INDIVIDUAL UNIT

replaces expansion valves, high & low side floats, capillary on all open & sealed types of domestic refrigerators.



Sealed Unit Parts Co., Inc.

SOLE DISTRIBUTORS

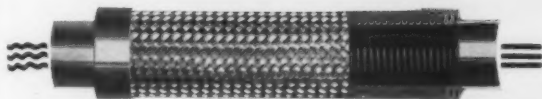
261 EAST 161st STREET, BRONX 51, NEW YORK

Circle No. 62 on Reader Service Card for more information

COMMERCIAL REFRIGERATION • JULY, 1951

CMH VIBRA-SORBERS

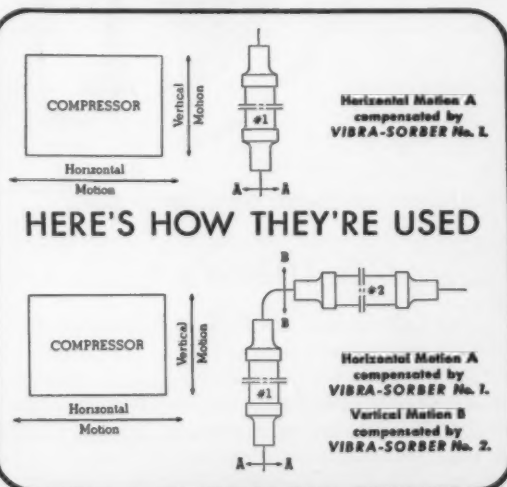
*the preferred method
of isolating compressor
VIBRATION*



CMH VIBRA-SORBERS installed in lines to and from compressors help keep objectionable noise out of the system . . . reduce damage to fixed piping or tubing resulting from vibration. Whether its a small room air conditioner or a huge commercial refrigerating plant, VIBRA-SORBERS provide the dependable vibration absorption so necessary to the long life and good service of the plant.

VIBRA-SORBERS are standard lengths of metal braid covered sections of corrugated bronze or steel hose. They are available in standard sizes from 1/8" through 4", I.D. (larger sizes also available). Furnished with straight extended tube ends or threaded fittings; bent extended tube ends for angle installations are also available.

Write for data sheets giving full information on VIBRA-SORBERS.



HERE'S HOW THEY'RE USED

CHICAGO METAL HOSE CORPORATION

1321 S. Third Ave., Maywood, Illinois

Manufacturers of Flexible Metal Hose, Metallic Bellows and Bellows Assemblies and Expansion Joints for Piping



CMH ONE DEPENDABLE SOURCE
for every flexible metal hose requirement

Circle No. 63 on Reader Service Card for more information

...the 'PENN'tagon
calls Mr. JOB-PAK



Quality TUBING GETS DRAFTED *First*

The government needs high quality tubing—dependable at all times for perfect performance and lasting serviceability. Naturally, Penn was put on call early, for Penn tubing measures up in any field. Rigid quality control maintains the properties for which Penn seamless tubing is famous—it's always dry, clean and bright, uniform, and so easy bending. For easier installations and fewer rejections, insist on tubing with the Penn trademark, packed in the protective Job-Pak carton. Even though allotments have been reduced, you can always count on a "package of quality" with every package of Penn tubing.



Modern Papco tube tools save tubing by making a perfect flare . . . Order now and conserve tubing. Send for complete Papco literature.



QUALITY TUBING HAS A "PENN NAME"
PENN BRASS & COPPER COMPANY

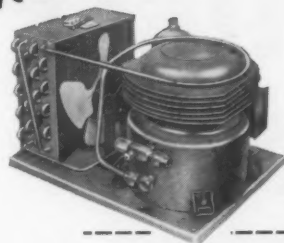
ERIE • PENNSYLVANIA • TELEPHONE 3-5111

Circle No. 64 on Reader Service Card for more information

PRODUCT INDEX

(Bold face page numbers indicate advertisements, other page numbers indicate editorial reference.)

Beverage Cooling Equipment . . .	56, 71, 81
Coils, Unit Coolers	2, 10, 81
Cold Plates	54, 63, 68
Commercial Condensing Units 12, 22, 32, 55, 57, 61, 64, 73, 77, 83	
Commercial Refrigerators . . .	28, 32, 36, 44, 45, 46, 49, 53, 56, 61, 63
Controls, Switches	26, 30, 84
Cooling Towers	6, 10, 16, 48, 54
Copper Tubing	8, 17, 29, 76
Defrosting Equipment	25, 77
Dehydrants	82, 87
Driers	27, 58, 69, 81
Electrical Supplies	58, 87
Evaporators	Cover 2
Filters	48, 54, 56
Fittings, Accessories	27, 65
Gaskets	80, 86
Gauges, Instruments	40, 52, 56, 62, 88
Hardware	67
Insulation	20, 54, 59, 88
Liquid Chilling Equipment	10, 64
Liquid Indicators	56, 59
Low Temperature Uses	37
Motors	7, 18
Packaged Air Conditioners . . .	19, 22, 24, 34, 42, 43, 54, 58, 59, 62, 69
Packaged Commercial Equipment	54, 59, 62, 75, 81
Pumps	Cover 2, 15, 63
Refrigerants	4, 20, 66
Refrigeration Oils	13, 35, 78
Replacement Parts	11, 54, 61, 75, 84
Shop Equipment	5, 50, 58, 80
Soldering and Brazing Supplies .	23, 60, 86
Store Fixtures	49
Thermal Glass	14
Valves	1, 9, 21, 38, 39, 51, 54, Cover 3
Vibration Eliminators	75



LET'S GET TOGETHER ON *Lehigh* HERMETICS

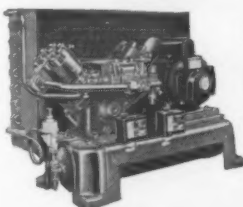
Here are the sizes most in demand—all available for immediate delivery through Lehigh jobbers everywhere. Stocks also include all components and replacement parts. Design is thoroughly proven. Quality is the best and most reliable!

1/4 HP thru 1/2 HP—Low Torque & Capacitor Types

LET'S GET TOGETHER ON *Lehigh* TRUCK UNITS

Body builders, fleet owners, transportation companies, ice cream and frozen food distributors, vendors, etc., are all prospects in this rapidly expanding refrigeration activity. Lehigh is doing an outstanding job in truck units with a complete range of models for every purpose. Available

1/2 HP thru 3 HP



LET'S GET TOGETHER ON *Lehigh* AUTOMATIC DEFROST UNITS

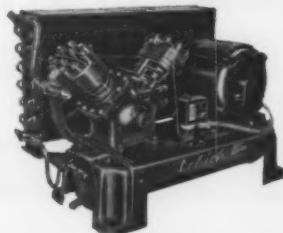
There are so many applications for automatic defrost systems that it will pay you to know all the advantages of the Lehigh system. Engineers consider it outstanding for simplicity and efficiency. Ask for special bulletins. Available

1/2 HP thru 3 HP—For use with any evaporator

—YES, WE BACK YOU WITH A FULL LINE of UNITS

- ★ Packaged Air Cooled—1/4—1/3—1/2 HP.
Freon 12 & Freon 22
- ★ Standard Air Cooled—1/2 HP
- ★ Heavy Duty Air Cooled—1/3—1/2—3/4—1—1 1/2—2—3 HP
- ★ Water Cooled—1/2—3/4—1—1 1/2—2—3—5 HP
- ★ Air-Water Cooled—1/2—3/4—1—1 1/2—2—3 HP
- ★ Belt Driven Bare Compressors—1/4 thru 5 HP
- ★ Water Cooled Condensers—1/2 thru 3 HP

Special units as listed



The LEHIGH TEAM was never in better position to cooperate with you on all refrigeration problems. Your inquiry is invited!

Lehigh Manufacturing Co.

Plant: LANCASTER, PENNSYLVANIA . . Export Dept.—39 Broadway, New York 6, N. Y.

Circle No. 65 on Reader Service Card for more information

TEXACO CAPELLA OILS

MONEY-MAKERS

for
**SERVICE
ENGINEERS**

•
DEALERS

•
DISTRIBUTORS

TO ASSURE clean, trouble-free compressor operation — the kind that builds new and repeat business — Service Engineers everywhere use *Texaco Capella Oils*. And regular, ever-increasing calls for *Texaco Capella Oils* are the reasons so many Dealers and Distributors stock them.

Texaco Capella Oils are great lubricants — approved by leading compressor manufacturers — because they do every compressor lubricating job superlatively well.

You can get *Texaco Capella Oils* in every needed viscosity . . . in 1-quart, 1-gallon and 5-gallon *sealed* containers. Let these money-makers make money for you. The Texas Company, 135 East 42nd Street, New York 17, N. Y.



TEXACO Capella Oils

FOR ALL AIR CONDITIONING AND REFRIGERATING EQUIPMENT



Circle No. 66 on Reader Service Card for more information

JULY, 1951 • COMMERCIAL REFRIGERATION

THE PRACTICAL REFRIGERATION APPLICATIONS MANUAL

By Harold Smith

Readers are invited to submit their problems to this department. Each letter of inquiry will be answered personally by the author. The most interesting ones will be published in these columns. All problems should be clearly and completely stated and addressed to: **COMMERCIAL REFRIGERATION, Manual Dept., 1240 Ontario St., Cleveland 13, Ohio.**

PROBLEM

"I am new in this business and I have a couple of small problems with which I hope you can help me.

"1. I have been called upon to service a 3-hp air cooled compressor. The fan is direct-connected to the motor. The fan makes a lot of noise but I can't find out what causes it.

"2. In moving a compressor from a long distance away from the equipment it cools to a point close to the cabinet I have found that there isn't enough room in the line to install a heat exchanger. What is the best thing to do? The compressor is a 3-hp model attached to an ice cream cabinet."

SOLUTION

We are inclined to believe that the fan noise which you describe may be caused by the fan blades being loose and vibrating when the machine is in operation. It may be difficult to detect this looseness.

If you find after a thorough inspection that this does not seem to be the source of the noise, check to see if the condensing unit is level and setting solidly on the floor. Sometimes it is necessary to set the condensing unit legs on rubber pads to reduce the noise.

Regarding your second problem, if you consider it essential to install the heat exchanger on the close-coupled ice cream cabinet we sug-

gest that you deliberately provide tubing runs sufficiently long enough to accommodate the heat exchanger. By proper adjustment the frost line can be held back within the cabinet, thus eliminating frost-backs between the cabinet and the condensing unit.

Mechanically Refrigerated Freight Cars Used On Boston "Milk Run"

Mechanically refrigerated railroad cars will be used for the first time to bring milk to city markets, according to a joint announcement by the Boston & Maine railroad and the Bellows Falls Co-operative Creamery, Bellows Falls, Vt.

An order for "Thermo King" refrigerating-heating units to equip eleven of the new "reefers," which are much like huge kitchen refrigerators on wheels, has been placed with U. S. Thermo Control Co., Minneapolis. Delivery is scheduled for May 1, and installation will be made at the Concord, N. H. shops of the Boston & Maine by railroad employees, under the supervision of the Walsh Body and Trailer Corp., Somerville, Mass., New England representatives of U. S. Thermo Control Co.

The cars will be used to haul bottled milk and cream in paper containers from Bellows Falls to Boston, for distribution through First National Stores, at a constant temperature of 35 degrees. The equipment is completely automatic, and any de-

sired temperature can be maintained by simply setting a dial. The "heat pump" principle, in which the system reverses itself to provide heating if the temperature falls below the dial setting, will keep the milk from freezing during cold weather.

Clark H. Bowen, general manager of the Bellows Falls creamery, said that by eliminating ice and brine in the refrigeration of milk a great forward step in sanitation and quality control would be achieved, as well as substantial savings in time and money. Each car will have about 16 per cent more cargo space, and the mechanical equipment weighs only 2,500 pounds, compared to a 7,000 pound summer load of ice.

The refrigerating mechanism is a self-contained unit installed at one end of the car, and occupying half the space required by ice bunkers. It consists of a 28-hp gasoline engine, 6-cylinder compressor, cooling coil, air circulating fan and automatic controls. Freon is used as the refrigerant.

The floor racks and wall flues of the car serve as air ducts. Every five hours the unit defrosts automatically.

One of the most important maintenance features of the Thermo King unit is that it is a complete "package."

Ralph W. Porter, executive vice-president of U. S. Thermo Control Co., hails this system as the first practical application of mechanical refrigeration equipment to railway freight cars. Two years of test and several months of commercial operation have shown that controlled temperatures as low as -20 F can be maintained at low cost, without the inconvenience, damage, and delays in transit caused by the ice method.

N. Y. SKYSCRAPER TO USE CONDUIT SYSTEM

A new 21-story, \$9,000,000 office building now under construction at 260 Madison Ave., New York City, will be air conditioned by the Carrier Conduit Weathermaster system.

Turbine-driven compressors in the sub-basement, using New York City steam, and capable of producing in 24 hours as much cooling effect as could be obtained from melting 1240 tons of ice, will service the upper 20 stories of the structure. The street floor stores and bank area will later be equipped with individual units.

TAC does what no
other tool can do!

AT LAST! AN OPEN-END
RATCHET WRENCH—the world's
first true universal wrench. Never
in the history of refrigeration and
air conditioning servicing has any
tool been developed to equal the
ability of this patented design for
connections on tubing, rods, pip-
ing, conduit, studs, etc. 64 socket
sizes from $\frac{3}{8}$ " to 4". TAC speeds
all of your wrenching jobs.

makers of
advanced tools
for industry

TAC

TAC is the registered trademark of
TUBING APPLIANCE CO.
7112 South Victoria • 10321 Anza Ave. • Los Angeles, Calif.

Make your operation more efficient...more economical...more profitable with

TECHNIFLEX

REFRIGERATOR DOOR GASKETS

the most complete line of
replacements
gaskets

A door gasket for almost
every household refrigerator.
Made of natural rubber
to meet the most rigid
specifications of nationally
known appliance
manufacturers. Non-staining,
odorless, non toxic, oil
resistant, weather and tear
resistant for long life.

Discuss your refrigerator
replacement problems
with us. Let us show you
why "quality and Techniflex"
mean the same thing.
When your profits depend
on quality...it pays to
depend on Techniflex.

ask for complete
illustrated catalog



**TECHNIFLEX
DOOR GASKET NOTCHERS**
Take the guesswork out of gasket
installations. Lightweight. Easily
operated. Tempered steel blades are
easily replaced. Two styles: for cut-
line 90° and radius corners.

TECHNIFLEX

Dept. 62, PORT JERVIS, N. Y.

Circle No. 68 on Reader Service Card for more information

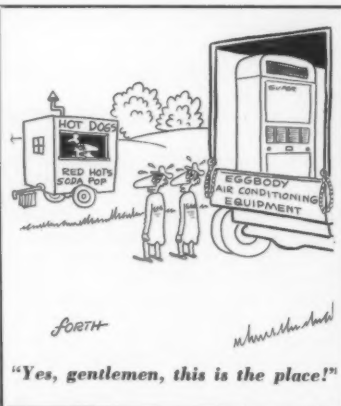
FOOD FOR FACTORIES . . .

Continued from page 33

habits differ. Some food managers
like to buy ahead and need storage
space. Others find it simpler to buy
everything on a daily basis.

In-plant feeding, the survey shows,
is here to stay. Plants included in the
Institute's study were feeding 59% of
their employees in November, 1950.
According to the War Food Adminis-
tration, only 40% of plant workers
availed themselves of the opportunity
to buy food on the premises in 1944.

Most plants hope to break even on
their food service, few expect to make
even a reasonable profit, and none
want to get the reputation for "mak-
ing money on their employees." Of
plants who run their own service,
77% lose money. Of plants that turn
the job over to an outside caterer,
only 45% lose. Food service "losses"
in industrial plants aren't comparable



to restaurant losses, however. It's
customary, in plant cafeterias, to give
the operation space, light and heat.
Restaurants must pay these expenses
out of operating revenues. In many
cases, too, the cafeteria is equipped
by the company and turned over as
such to a caterer. Concession arrange-
ments under which a caterer pays a
percentage of the profit to the com-
pany are growing less frequent, cat-
eterers say. The coming deal is a
fixed-fee contract under which the
company pays the bills and permits
the caterer a flat amount for his serv-
ices. Companies like to keep close
track of the prices charged their em-
ployees and the services provided for
them, and are willing in many cases
to pay the piper for the privilege. Of

LOOK to LARKIN

for Low Prices



LARKIN CEILING HUMI-TEMP

Price is only one factor in the selection of any product—especially one that has so important a task as protecting valuable perishables. Performance must come first. Quality cannot be overlooked. Durability is highly important. Larkin has all of these. And Larkin has low prices, too. Compare them and see for yourself how low they really are.

For the latest Larkin price list, see your wholesaler. If you wish, write direct to us and we shall be glad to send you one.

Manufacturers of the original Cross-Fin Coil — Humi-Temp Units — Evaporative and Air Cooled Condensers — Air Conditioning Units and Coils — Direct Expansion Water Coolers — Steel Vacuum Plate Coils — Heat Exchangers.

WATCHDOG OF THE NATION'S FOOD SUPPLY



519 MEMORIAL DR., S.E. • ATLANTA, GA.

**NO Other Line Gives You
So Much Satisfaction,
Quality, Safety, Economy!**

OK SAYS **UL**

UNDERWRITERS' LABORATORIES
on the Complete Line of

**RAPID Refillable
DEHYDRATORS**

(SIZES 5 CU. IN. TO 200 CU. IN.)

QUALITY and SAFETY, requirements of the industry, are assured you by this Underwriters' Laboratories listing. Lower first cost and trouble-free operation provide maximum ECONOMY. Insist on RAPID Refillable Dehydrators!

All Sizes Now Available in
New Metal Edge Boxes.

DESIGN-ENGINEERED
FOR RUGGED SERVICE

Fine PRODUCTS CO.

4837 S. Western Blvd., Chicago 9, Ill.



97 plants reporting a dollars and cents cost to the company on food service, the average outlay was \$6 a year per employee.

A realistic resignation to the need for subsidizing factory food services and a tendency to turn the job over to an outside expert are trends directly stemming from the headaches plant management experienced during the war. Manpower was the biggest difficulty then, and although there is no acute shortage of kitchen help now, wages are up 65% over wartime peaks. Food carts, snack bars, canteens, vending machines, carryout systems, take less labor than cafeterias and waiter service restaurants, break even more often, and enjoy a higher percentage of patronage than the full meal services.

RATIO OF FOOD SERVICE WORKERS TO PEOPLE FED NOVEMBER 1950

Type of Service	No. Fed Daily	No. Food Workers	Ratio
Waiter Service Restaurant	4,702	170	1 to 28
Cafeteria	176,555	2,908	1 to 61
Mobile Units or Food Carts	102,411	804	1 to 127
Snack Bars or Canteens	55,535	348	1 to 159

Large companies are installing food services as a matter of policy, and they are accustomed to buying good equipment. For that reason, there should be a continuing growth in the market for food service refrigeration in factories for many years to come.

Full details on results of the survey, with statistical tables are available in a 40-page booklet, "Feeding the Factory Worker," which the Field Research Division of the Paper Cup and Container Institute, Inc., 551 Fifth Avenue, New York 17, N. Y., will send free on request.

NEW DIRECTOR ELECTED BY REMINGTON CORP.

Maurice I Schwartz, of Auburn, N. Y., was elected to the board of directors of Remington Corp., manufacturer of unit air conditions, at the recent annual stockholders' meeting. All other officers and directors of the company were re-elected, including Herbert L. Laube, president; Fred Stidfole and M. Mark Watkins, vice presidents; C. C. Brown, Jr., secretary; and Kenneth E. Latimer, treasurer.

President Laube reported the backlog of unfilled orders is more than \$1 million.

United
FOR *Quality*
AND *Economy*

KUBEMASTER ICE CUBE MAKER

Whenever food or refreshment is served, ice cubes as you need them. Choice of 3 beautiful models.



REACH-INS

Modern flush fronts with recessed handles in popular sizes. Ten models to choose from. Available in white Dulux, stainless steel fronts and glass doors.



UPRIGHT FREEZER 15 Cubic Feet

Scientific placement of cooling coils, two separate food compartments, dual doors to minimize cold loss, insure balanced freezing at minimum cost.



DRY KOOL BOTTLE COOLER

World famous for performance and design. 14 models to meet all requirements in stainless steel or brown Dulux finish.



KOOLMASTER DIRECT DRAW

Engineered to serve beer to the "Brewmaster's" taste. Its smart appearance enhances any establishment. Choice of 8 models in Stainless steel or brown Dulux finish.



DESIGNED—ENGINEERED—MANUFACTURED
By

**UNITED
REFRIGERATOR
COMPANY**

Locust and Walnut Sts.
HUDSON, WISCONSIN

Circle No. 71 on Reader Service Card

LOW TEMPERATURE . . .

Continued from page 40

had been charged with one type of refrigerant without giving due consideration to the necessity of changing lubricating oils, possibly expansion valves, and possibly the horsepower of the motor. By the same token, lubricating oils cannot be interchanged without the consideration outlined above.

The story on low temperature evaporators was touched upon briefly

above when it was mentioned that all evaporators should be designed to be free draining, and as far as the maintenance or service engineer is concerned, one of the places to look for lost oil is in trapped evaporators or trapped suction lines. One of the common failures in setting up systems is that a free draining evaporator is installed but the entire evaporator system is placed at a lower level than the compressor or condensing unit set-up, and as a result the suction line, being trapped, accumulates excessive quantities of oil, robbing the

compressor crankcase and eventually causing trouble.

The last service hint, with regard to low temperature systems, involves not the equipment or component of the system, but rather, the technique of handling and servicing the low temperature system—in particular, the importance of proper dehydration of the system, as a unit as well as the individual component parts.

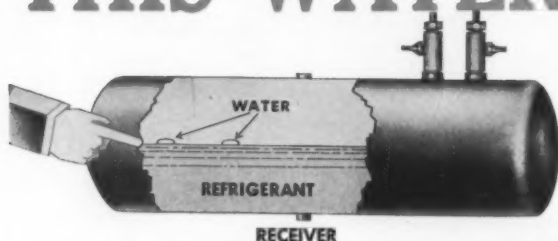
For ordinary high temperature refrigeration systems where the evaporator temperature does not exceed or get colder than 0 or -10F, ordinary commercial driers take care of a considerable amount of moisture which may be in the system when it is initially installed. However, it is apparent that, where refrigerant temperatures reach -100 or -110F or even -150F, even the minutest trace of moisture in the system will find its way to the expansion valve orifice and will freeze up, causing considerable difficulty in operation.

Dew Point Must Be Low

Ordinary commercial systems dehydrated by standard methods and installed with special dehydrators need not have dew points of the refrigerant and systems much lower than -50F or 60F, but for these extremely low temperature jobs, it is imperative that the dew point of the entire system be less than -120 to 160F. In order to obtain this degree of dryness, extreme care must be given when handling individual components as well as in attempting evacuation prior to charging.

Overnight evacuation with high capacity vacuum pumps is necessary to produce an effective dehydration and evacuation of the system. It is also suggested that charging be done through a dehydrator of sufficient size to remove any moisture present in the refrigerant. Large size dehydrators installed in the liquid line should be provided and a suitable bypass arrangement around these dehydrators is recommended for the removal of the dehydrator, after the initial run has been made, consideration being given to the fact that dehydrators are not recommended to be left installed in the line after the system has been thoroughly dried.

JUST ONE WAY TO REACH THIS WATER



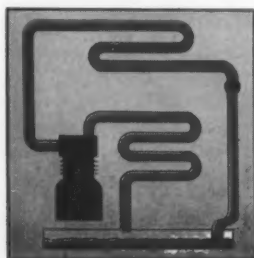
Water trapped in the receiver, or anywhere else, can only be reached with a liquid drier. How can you tell whether water is trapped in the system? You can't. So you can't be sure you're reaching all the moisture unless you use a liquid drier . . . Thawzone.

Wherever moisture goes, Thawzone goes, too. It reaches the expansion valve, the receiver, the coil, the

tubing walls, both highside and lowside. What other method can do that? You're sure you've found the moisture when you use Thawzone.

Did you know that only Thawzone actually eliminates water permanently? Other methods hold water and sometimes release it later. The water removed by Thawzone cannot possibly return. Fewer callbacks for you.

Use Thawzone in "Freons", methyl chloride, "Carrene" or isobutane. 1 teaspoonful (1/2 oz.) per pound of refrigerant. Use half as much in hermetic units. Highside Chemicals Co., Colfax Ave., Clifton, N. J.



GOES WHEREVER WATER GOES

THAWZONE®

The Only Product That
Destroys Water...
and Reaches All of it

**BUY FROM YOUR
REFRIGERATION WHOLESALER**

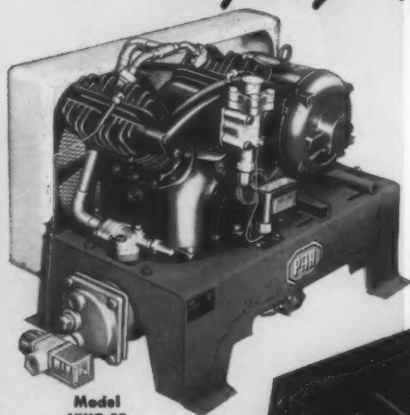
Circle No. 72 on Reader Service Card for more information

*Modern testing
methods assure...*



PAR and PARmETIC

B.T.U. Capacity Ratings are Always Right!



Model
HWC-50

PARmETIC
Model PM-O



Lynch modern Calorimeter tests
establish accurately PAR and PARmETIC B.T.U.

Capacity ratings as advertised!

When you buy PAR or PARmETIC,
you're sure the B.T.U. ratings are
right—and that the Units will
give trouble-free
dependable performance.

PAR conventional condensing units,
air-cooled 1/6 to 3 H.P., water-cooled
1/2 to 15 H.P., Combination air and
water 1/2 to 3 H.P. PARmETIC sealed
units from 1/8 to 1/3 H.P.

BY COMPARISON—YOU'LL BUY PAR and PARmETIC



PAR AIR
COMPRESSORS



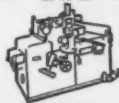
PAR
REFRIGERATION
COMPRESSORS



WRAP-O-MATIC
CANDY & COOKIE
WRAPPING
MACHINES

LYNCH

CORPORATION
PAR COMPRESSOR DIVISION
TOLEDO, OHIO



MORPAC
PAPER PACKAGING
MACHINES



MORPAC
BUTTER & OLEO
PACKAGING
MACHINES



GLASS FORMING
MACHINES

Circle No. 73 on Reader Service Card for more information
and AIR CONDITIONING • JULY, 1951



There's no need to fuss around with makeshift refrigeration controls—when you can rely on Ranco Replacements. Today there is a Ranco control for almost every refrigeration job, whether you're working on a domestic refrigerator, water cooler, milk cooler, or commercial installation.

Already the world's largest manufacturer of refrigeration controls, Ranco has increased plant capacity to assure you of the controls you need—to make sure we can fill your orders for dependable Ranco controls.

Stumped on what control fits what? This book—at your Ranco wholesaler's—will answer your questions in a jiffy.



Ranco Inc.

COLUMBUS 1, OHIO



WORLD'S LARGEST MANUFACTURERS OF REFRIGERATION CONTROLS

Circle No. 74 on Reader Service Card for more information

JULY, 1951 • COMMERCIAL REFRIGERATION

THE SERVICE MAN'S DEPARTMENT

HERE'S HOW!

Edited by
Warren W. Farr

Do You Know That . . .

. . . excessively high head pressure will sometimes cause high side float balls to collapse? What might give the indications of a stuck float needle or mechanism may be a collapsed ball.

. . . after some practice you can fill your own dehydrators easier than at first may be supposed? Be sure to cap them tightly when you have completed the job of refilling them, and in soldering them use 95-5 solder only.

. . . every serviceman should carry a small level in his tool box to level float coils? The eye is not a satisfactory substitute.

*I do it
this way...*

IN one of the past issues of your magazine a "Here's How" contributor suggested a way of using a G-E adaptor in charging those Frigidaire sealed units having the purge core on the low side strainer. Here is a simpler way to do this, and you don't have to ruin your G-E adaptor in the process.

Every hermetic kit has an adaptor for $\frac{3}{8}$ -inch S.A.E. male fittings. This adaptor need only be reamed slightly in order for it to slip over the sleeve on the Frigidaire purge assembly. Then use your G-E adaptor, which will fit the $\frac{3}{8}$ -inch adaptor.

Also, a warding file will make a much more satisfactory slot in the hex head of the purge core than will a hacksaw.

Making the unit up in this way eliminates the danger of the soft solder breaking or leaking and either losing the refrigerant charge or pulling in a lot of air.

Lee M. Johson, Guthrie, Okla.

WANT TO EARN \$5?



You don't have to be a writer or a literary genius! Just jot down some of the shortcuts you've developed in your maintenance or installation work and send them to HERE'S HOW EDITOR, COMMERCIAL REFRIGERATION AND AIR CONDITIONING. Your \$5 will be paid promptly when your maintenance tip is published in the magazine. Let's hear from you!

Service Files Are Prospect Files

A good service department usually has a carefully recorded history of every installation that the company has serviced or installed. Properly used, this running record also can become an excellent prospect file from which to draw leads for new equipment sales.

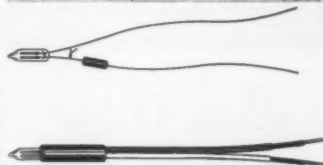
Always keep in mind the fact that your servicemen, even more than your salesmen, are making daily contacts with your customers. What better way could you find to secure customer acceptance of the products you sell than through the properly regulated activities of these servicemen?

Remember that the serviceman gets on the customer's premises not by sticking his foot in the door but by invitation. Because of his position he has an opportunity to become intimately acquainted with the cus-

tomers' requirements, and can tell better than anyone else when present equipment needs to be replaced or supplemented.

To encourage this potential source of new equipment business, many dealers have adopted some sort of incentive plan through which servicemen are awarded extra compensation on the sales of new parts and equipment for which they are responsible.

*I do it
this way...*



AN inexpensive line test light can be improvised with the use of a "Signalite" plug fuse.

These fuses have a small neon light element which lights when the circuit is open. The red cover protecting the light element turns clockwise on six contacts, so that actually the fuse can be used six times. The lamp element is still good after the fuse itself has been exhausted, so it is not necessary to destroy a new fuse to create the test light.

Removing the protecting cover from this fuse makes the lamp itself readily accessible. Remove the neon element, being sure not to disturb the carbon resistor. Then insulate the leads with "spaghetti" insulating material and protect the bulb and resistor assembly with a larger sleeve of insulating material. Solder tips on your lead wires and your test light is completed.

This light also can be used as a stationary signal on any circuit (110-220 volts) switch boxes, etc.

J. M. Bilson, Elmira, N. Y.

Says GASKET JOE



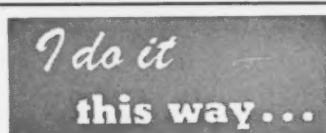
HERE'S YOUR QUESTION—ALWAYS ASK IT!

"DID I LOOK AT THAT DOOR GASKET?"

JARROW PRODUCTS
420 N. LA SALLE ST., CHICAGO 10, ILLINOIS

Do You Know That . . .

. . . pinhole leaks may develop in low side float balls, permitting them to fill up with refrigerant, sink, and leave the needle valve wide open? This condition is not always apparent on first inspection, as pumping down the evaporator to examine the ball also pumps the refrigerant out of the ball, making it appear that it is in good condition. If in doubt, immerse the ball in carbon tetrachloride and watch for bubbles.



SOMETIMES servicemen have occasion to weld a capillary tube or 3/16-inch tube into a larger tubing and then fasten the larger tubing with a flare nut.

When you tighten the nut the capillary tube will twist if you don't hold the larger tube. I keep it from twisting by placing a flaring block of proper size around the larger tubing and blocking it against any handy object, thereby having both hands free to tighten the nut.

G. T. Ward, Hamilton, N. C.

PLAY IT SAFE!

"CARBON TET" CAN BE A KILLER

By George J. Schulz
International Safety Director, RSES

CARBON tetrachloride, more familiarly known to many as "carbon tet", often is mistakenly considered a safe solvent because of its non-inflammable characteristics. While noninflammable, this solvent is very toxic. In fact, our office has received more reports on mishaps involving this chemical hazard than any other hazard in the refrigeration business.

One recent report relates how a man was overcome and killed by inhaling carbon tetrachloride fumes while using this solvent to clean grease spots off the floor. Another man dropped dead while cleaning parts, and the coroner ruled that death was caused by absorption of the chemical through the pores of the skin as a result of the solvent-soaked gloves he was wearing.

Short of causing death, carbon tet also can cause permanent injury to various internal organs. Its real danger lies in the fact that its effects can be cumulative from exposure to exposure until the point is reached at which the body becomes unable to function properly. Symptoms are similar to those of prolonged exposure to other solvents—nausea, headache, dizziness, vomiting, and unconsciousness.

The following cautions on the use of carbon tetrachloride were taken from a National Safety Council pamphlet:

1. Keep it off the skin. It dissolves the natural skin oils and may cause severe dermatitis.
2. If the liquid can splash, use a protective skin lotion.
3. Use the liquid in open containers only under an efficient local exhaust hood.
4. Put on an air line respirator before you enter a place where a person has been overcome by carbon tetrachloride vapors.
5. Do not use carbon tetrachloride unless authorized.

For Locating Leaks • Soldering • Heating • Brazing

Prest-O-Lite

Trade-Mark

REFRIGERATION OUTFIT

ALL-PURPOSE—Handiest kit yet for installer and service man. 3 stems for soldering, heating, and brazing. Detector for locating non-combustible refrigerant gas leaks.

QUICK—Always ready for immediate use. Torch or detector lights instantly. No pumping, priming, or warmup. Detector locates exact source of any non-combustible halide refrigerant gas leak in seconds.

DEPENDABLE—No delicate parts to get out of order. Unaffected by drafts or weather.



Outfit illustrated \$22.50

CONVENIENT—Compact and light. Easy to use anywhere.

• See your jobber or ask us for further information. Linde Air Products Company, a Division of Union Carbide and Carbon Corporation, 30 East 42nd Street, New York 17, N. Y.

"Prest-O-Lite" is a trade-mark.

NEW FIRM ORGANIZED

The Snowhill Manufacturing Co. has been established to manufacture and service equipment in the refrigeration and air-conditioning industry. The plant will be at Cedar Hill, Mo., and offices at 3636 Grandel Square in St. Louis. George W. Thatcher is president.

Order from your local Jobber

Circle No. 76 on Reader Service Card for more information

OPPORTUNITIES

(Classified Advertising)

Rates: for "Positions Wanted," \$4.00 minimum, limit 25 words. For all other classifications, \$4.50 minimum for 25 words or under, each additional word 15c; boldface type or all capitals, \$7.50 minimum for 25 words or under, each additional word 20c. Box addresses count as five words, other addresses by actual word count. All advertisements in this section are payable in advance.

POSITIONS AVAILABLE

WANTED—Man with tested commercial cabinet and designing engineering experience. Must be graduate BSME or experience equivalent with actual metal layout and executive drafting tooling background. Salary mid to top four figures. Furnish complete resume of education, employment experience, personal qualities and general information. Real opportunity for man age range 30-45. Small town—desirable living conditions. Splendid opportunity for advancement to executive group. Please write Box 7151, Commercial Refrigeration & Air Conditioning.

TRAINING AVAILABLE

Course on sealed unit rebuilding trade secrets disclosing exclusive methods for all operations. \$12.50 or write for details. H. Custer, Box 98, Center Line, Michigan.

FOR SALE

For Sale—Manufacturing plant in northern Ohio. Modern brick building, 12,500 square feet of floor space. Sheet metal, wood-working tools and paint spray booth and drying room. One block from railroads. Plant now engaged in some defense work beside manufacturing refrigeration equip-

ment necessary to the defense effort. Owner desires to sell buildings, equipment, inventory and business at once. Inquire—J. W. Frye Co., Brokers, Rittman, Ohio.

HEADS ILLINOIS ASHVE

George W. Bornquist, Chicago representative of Bell & Gossett Co., has been elected president of the Illinois chapter of the American Society of Heating and Ventilating Engineers.

MITCHELL APPOINTS NEW DISTRIBUTORS

Mitchell Mfg. Co. has announced the appointment of the following distributors of its window-type room coolers:

Twin States Distributing Co., Charlotte, N. C.; B. T. Crump Co., Richmond, V.; General Electric Supply Corp., Providence, R. I.; the St. Anthony Corp., Clearwater, Fla.; State Distributing Co., Jacksonville, Fla.; Tri-States Distributing Co., Inc., Shreveport, La.; South Texas Appliance Corp., San Antonio, Tex.; Boyd Engineering Co., Inc., El Paso, Tex.; Georgia Appliance Co., Atlanta; General Electric Supply Corp., Portland, Me.; Paul-Jeffrey Co., Inc., Syracuse, N. Y.; Krich-Radisco, Inc., Newark, N. J.



JIFFY

Selected

The RIGHT Capacitor for the RIGHT Job!

• Don't fuss or fumble! It costs you time and money if you don't know what replacement you need for that defective motor-starting capacitor.

With Aerovox up-to-date listings you immediately spot the right capacitor. And if motor can't be identified, there's the Aerovox Capacitor Selector to determine required capacitance. Jiffy-selected Aerovox replacements mean less time for more jobs and greatest profits.

• Ask your supplier for latest Aerovox Motor-Capacitor data—or write us.



FOR RADIO-ELECTRONIC AND INDUSTRIAL APPLICATIONS

AEROVOX CORPORATION, NEW BEDFORD, MASS., U.S.A.
 Sales Offices in All Principal Cities • Export: 41 E. 42nd St., New York 17, N.Y.
 Cable: AEROCAP N.Y. • In Canada: AEROVOX CANADA LTD., Hamilton, Ont.

Circle No. 78 on Reader Service Card

87

NO MORE FREEZE-UPS

of expansion valves or capillary tubes!

ICE-X

works like magic

SERVICE MEN SAY: "ICE-X IS GREAT!"



When ice forms in expansion valves or capillary tubes, ICE-X is a sure remedy . . . ICE-X is non-corrosive—harmless to parts. An ice-eliminator that can't be beat for Freon, Carrene, or Methyl Chloride systems . . . Order from your jobber. If no jobber, order direct.

Service doesn't falter
 when it comes from Harry Alter

The HARRY ALTER CO.

1728 S. Michigan Ave. Chicago 16, Illinois

Exclusive
ICE-X
Distributor

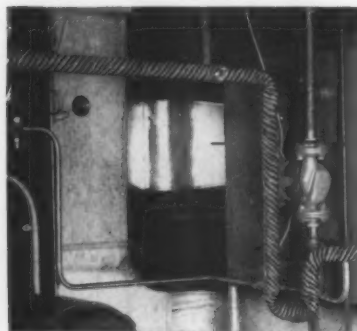
Circle No. 77 on Reader Service Card for more information
and AIR CONDITIONING • JULY, 1951



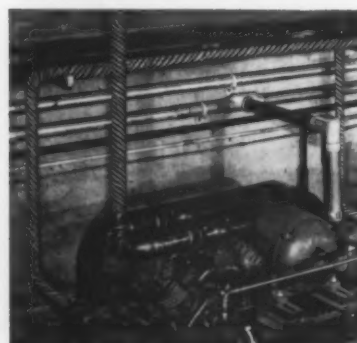
Positively Controls CONDENSATION DRIP

Prevents rust and corrosion, thus prolonging pipe life.

Just wrap cork-filled NoDrip Tape around cold water pipes, suction lines and joints running from refrigerating machines to condensers. Also used on refrigerant lines in air conditioning systems and on cold water pipes in basements.



NoDrip Tape is effective immediately. It can be painted. Clean and easy to put on, without tools, brads, etc.



CONTRACTORS: Include NoDrip Tape protection in your estimates, not only to stop dripping, but for the sake of good appearance on finished installations.

Roll covers about 10 feet of 1½" pipe. \$1.69 list. Higher west of Rockies and Canada. Order through your supply house or write for information.

J. W. MORTELL CO

Technical Coatings Since 1895

553 Burch St. Kankakee, Ill.
Circle No. 79 on Reader Service Card
88

INDEX TO ADVERTISERS

JULY, 1951

Acme Industries, Inc.	10
Aerovox Corp.	87
Alco Valve Co.	1
Allen-Bradley Co.	26
Allin Mfg. Co.	50
Harry Alter Co.	87
American Brass Co.	29
Ansul Chemical Co.	13
A-P Controls Corp.	Cover 3
Bal-Air, Inc.	69
Bally Case & Cooler Co.	49, 63
Bell & Gossett Co.	Cover 2
Bonney Forge & Tool Works.	5
Brunner Mfg. Co.	24
Bush Mfg. Co.	2
Century Electric Co.	7
Chase Brass & Copper Co.	17
Chicago Metal Hose Corp.	75
Copeland Refrigeration Corp.	57
Curtis Refrig. Machine Div., Curtis Mfg Co.	22
Dean Products, Inc.	63
Delavan Mfg. Co.	54
Detroit Lubricator Co.	38, 39
Eastern Industries, Inc.	63
Fine Products Co.	81
Ed Friedrich Sales Corp.	46
Friez Instrument Div., Bendix Aviation Corp.	88
General Electric Co., Air Cond. Dept.	11
Grand Rapids Brass Co.	67
Halstead & Mitchell.	6
Handy & Harman.	60
Henry Valve Co.	51
Highside Chemicals Co.	82
Himelblau Associates, Inc.	48
S. A. Hirsh Mfg. Co.	49
Ingersoll-Rand Co.	15
Jarrow Products	86
Kelvinator Div., Nash-Kelvinator Corp.	55
Kerotest Mfg. Co.	65
Kinetic Chemicals Div., E. I. duPont de Nemours & Co.	4
Kold-Hold Mfg. Co.	68
Kramer Trenton Co.	25
Larkin Coils	81
Lehigh Mfg. Co.	77
Libbey-Owens-Ford Glass Co.	14
Linde Air Products Co., Unit of Union Carbide and Carbon Corp.	23, 86
Lynch Corp., Par Compressor Div.	83
Mack Products Co.	50
Madden Brass Products Co.	69
Marley Co., Inc.	16
Jas. P. Marsh Corp.	52
McIntyre Engineering Co.	48
Mills Industries, Inc.	73
J. W. Mortell Co.	88
Mueller Brass Co.	27
Penn Brass & Copper Co.	76
Penn Electric Switch Co.	30
Pyramid Instrument Co.	37
Ranco, Inc.	84
Refrigerated Equipment Sales Corp.	75
Remco, Inc.	58
Remington Air Cond. Div., Remington Corp.	19
Revere Copper & Brass, Inc.	8
Rotary Seal Co.	61
Rubatex Div., Great American Industries, Inc.	59
Sealed Unit Parts Co.	75
Servel, Inc.	12
Cyrus Shank Co.	54
Sporlan Valve Co.	21
Sun Oil Co.	35
Superior Valve & Fittings Co.	9
Techniflex Corp.	80
Temprite Products Corp.	71
Texas Co.	78
Tubing Appliance Co.	80
Tyler Fixture Corp.	28
Union Carbide and Carbon Corp., Linde Air Products Co.	23, 86
United Refrigerator Mfg. Co.	81
Victory Metal Mfg. Corp.	53
Virginia Smelting Co.	20
Wagner Electric Corp.	18

"Prove the Need and the Sale Takes Care of Itself!"

FOR ACCURATE INFORMATION ON
RELATIVE HUMIDITY and
TEMPERATURE... RELY ON

Bendix- Friez

When your customers see the facts and figures, your selling job virtually disappears. With precision-made, dependable Bendix-Friez instruments you can demonstrate with on-the-spot readings or recordings exactly how much and where your customers need temperature and humidity control for maximum comfort in the home, maximum efficiency in industrial operations. Bendix-Friez instruments are built to U. S. Weather Bureau standards by the world's oldest and largest manufacturer of fine meteorological equipment. Write for complete information.

BENDIX-FRIEZ

MODEL 160

Portable Humidity and
Temperature Recorder

3" x 5" charts, 10 or 30
hour records. Modern design... handy for small
space and difficult locations... built to meet
unusual conditions.



BENDIX-FRIEZ

Hygro-dial

Precision Humidity and Temperature Indicator

Hand-operated and calibrated to professional standards of accuracy by the maker of the world's finest weather instruments. Handsome, modern case—4" high, 5½" wide, 1½" deep—desk or wall mounting.

FRIEZ INSTRUMENT DIVISION of

1340 Taylor Avenue

Baltimore 4, Maryland



Export Sales: Bendix International Division
72 Fifth Avenue, New York 11, N. Y.

Circle No. 80 on Reader Service Card

JULY, 1951 • COMMERCIAL REFRIGERATION

THESE VALVES STAY CLEAN IN DIRTY WATER!



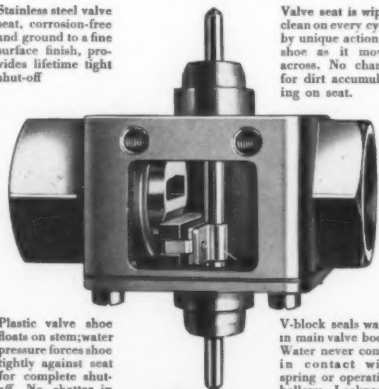
Model 65 Water Regulating Valve. Pressure 65 to 200 p.s.i. Freon 12. Available in $\frac{1}{4}$ " and $\frac{3}{4}$ " sizes.



Model 65 Water Regulating Valve. Pressure range 165 to 300 p.s.i. for Freon 22 systems. Model 65 capacity from 2.7 to 42 gal. per min.

HERE'S WHY

Stainless steel valve seat, corrosion-free and ground to a fine surface finish, provides lifetime tight shut-off.



Plastic valve shoe floats on stem; water pressure forces shoe tightly against seat for complete shut-off. No chatter in operation.

Valve seat is wiped clean on every cycle by unique action of shoe as it moves across. No chance for dirt accumulation on seat.

V-block seals water in main valve body. Water never comes in contact with spring or operating bellows. Leakproof forged-brass body.



DEPENDABLE WATER-REGULATING VALVES PROVIDE SIMPLE, TROUBLE-FREE CONTROL

A quick look inside A-P's water regulating valves tells you why they are the valves you need for trouble-free operation of your cooling system. They're compact — simple to install. Operating range 65 to 200 p.s.i. Freon 12. Regulate cooling water for compressors up to 42 hp. An extra large bellows is your assurance of extra-long life. Because operation is not affected by inlet pressure — valve action is quiet and positive every time — no chattering.

Find out about A-P's trouble-proof water regulating valves today. Remember, it's A-P's — the only valves on the market with "the self-cleaning seat" that stay clean — even in dirty water. Write for Bulletin R-6.



DEPENDABLE Controls

A-P CONTROLS CORPORATION

(formerly Automatic Products Company)

2486 N. 32nd Street • Milwaukee 45, Wisconsin

Export address: 13 E. 40th St., New York, N. Y. • In Canada: A-P Controls Corporation, Ltd., Cooksville, Ontario

Stocked and Sold By Good Refrigeration Wholesalers Everywhere • Recommended and Installed By Leading Refrigeration Service Engineers

Circle No. 81 on Reader Service Card for more information



The light in the "Lab"

In the research laboratories of hospitals, clinics, and medical schools throughout our country, the lights burn late . . . as scientists constantly strive to halt humanity's greatest enemy—CANCER.

As the lights continue to burn, the hope for a cure grows brighter . . . here's why:

Cancer Research Is Paying Off

Through research—which you have helped to support by donating to the American Cancer Society—medical science now has new weapons to combat this disease more effectively than ever:

Drugs—there is evidence that a chemical treatment for cancer may be perfected. Certain drugs will prolong the lives of cancer victims . . . other promising compounds are being tested.

Hormones—treatment with hormones, such as ACTH and Cortisone, has brought about dramatic, although temporary, effects in some types of cancer. Other hormones have helped control advanced cancer of certain organs.

X-rays—the development of more powerful machines promises to make this form of treatment more effective.

Isotopes—radioactive chemicals are becoming increasingly useful in treating certain rare forms of the disease.

In addition, surgical technics have been improved so much that once hazardous operations can now be performed safely. And progress is being made in the development of tests to detect cancer in its earliest stages when the chances for cure are best. Research has made

these life-saving advances possible. But, as long as cancer continues to kill some 210,000 men, women, and children in our country each year, we *must* keep the lights burning in the laboratories! *Much more research needs to be done before cancer can be dealt the final blow!*

Your life—the life of everyone you know—is at stake. Give generously to the 1951 Cancer Crusade.

Help Science Help You . . . Give To Conquer Cancer

Mail your contribution today
to

CANCER

% Your Local Post Office

... your gift will reach your
American Cancer Society Division

CANCER,
care of Your Local Post Office

Here is my contribution of \$ _____
to fight Cancer.

Name _____

Address _____

City _____ Zone _____

State _____

